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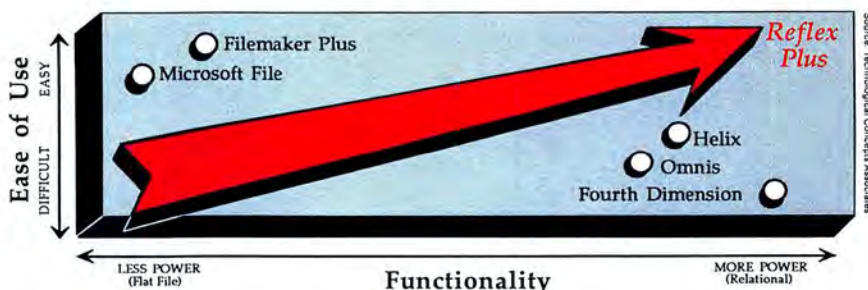
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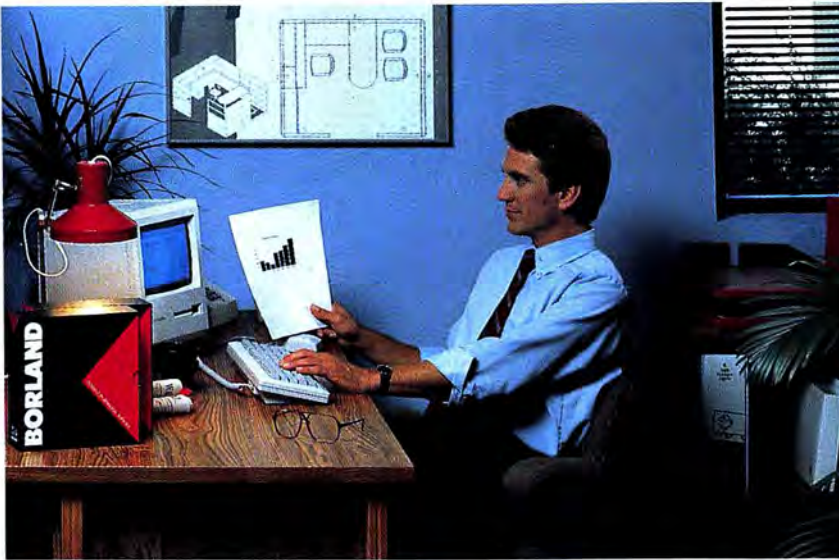
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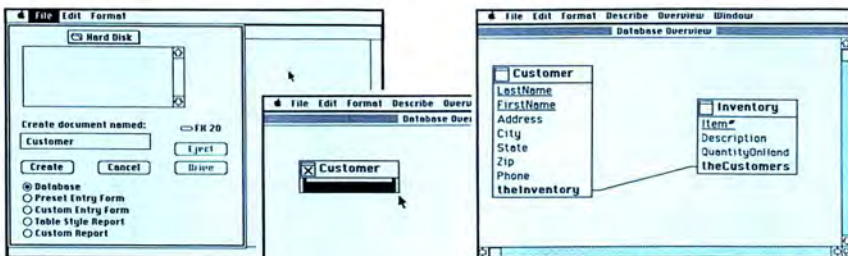
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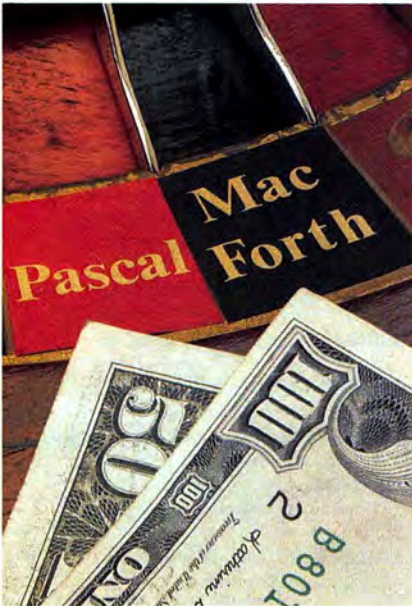
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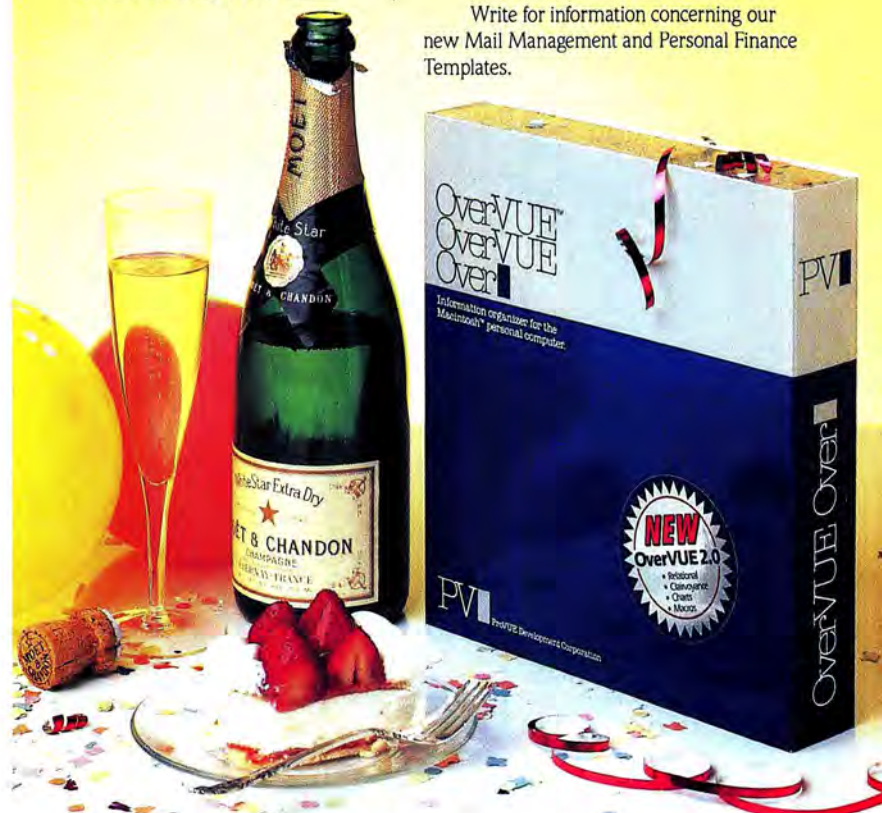
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MacUser (ISSN 0884-0997) is published monthly by Ziff-Davis Publishing Co., a division of Ziff Communications Co., One Park Ave., New York, NY 10016. Editorial Offices: 110 Marsh Drive, Suite 250, Foster City, CA 94404. Telephone: (415) 378-5600. Midwest Offices: 1150 Wilmette Avenue, Wilmette, IL 60091. Telephone: (312) 251-2541. U.S. subscription rates are \$27 for 12 issues, \$45 for 24 issues and \$62 for 36 issues. For Canada and Mexico, subscription rates in U.S. funds are \$39 for 12 issues, \$69 for 24 issues and \$98 for 36 issues. For other countries add \$50 per year to the U.S. rates for airmail. Add \$12 per year to the U.S. rates for surface mail. Single copy price is \$3.95 (Canada \$4.95). POSTMASTER: Send address changes to MacUser, P.O. Box 56986, Boulder, CO 80321-6986. Entire contents Copyright© 1987 Ziff Communications Company. All rights reserved; reproduction in whole or in part without permission is prohibited. PERMISSIONS: Material in this publication may not be reproduced in any form without permission. Requests for permission should be directed to the Reprints Manager, Jennifer Locke, Ziff-Davis Publishing Company, One Park Ave., New York, NY 10016. For back issues (subject to availability), send \$6 per issue, Canada, foreign \$7 per issue to: Ziff-Davis, One Park Avenue, 4th floor, New York, New York 10016, Attn: K. Armstrong. Second class postage paid at New York, NY 10016 and at additional mailing offices.



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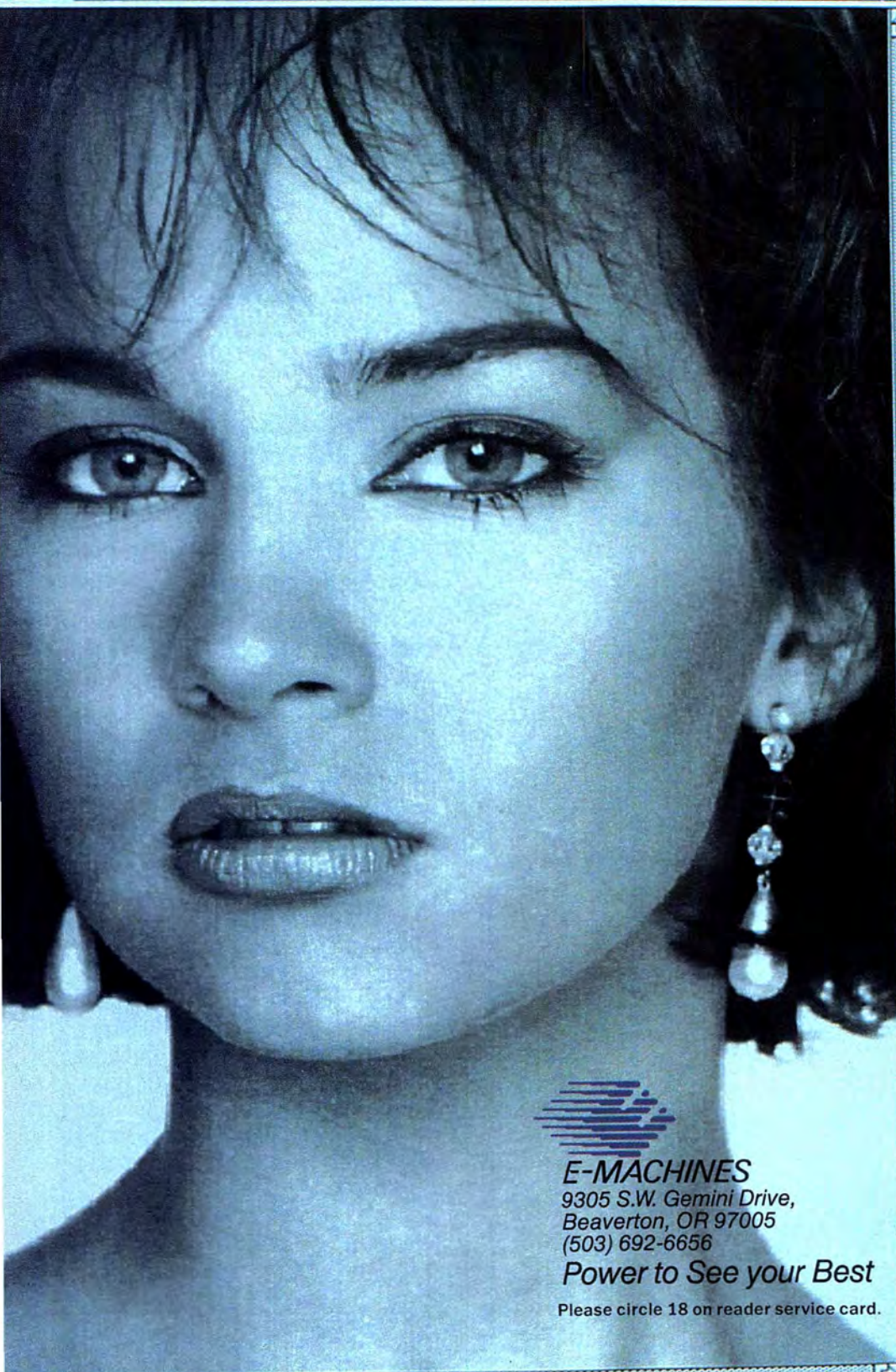
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by Steven Bobker

New and Wonderful

The recent (relative to when I'm writing this, not to when you're reading it) Comdex show in Las Vegas was a sprawling affair. It's five days long and you need that much time to just walk to all of the exhibits. Apple returned for the first time in several years and took a whole room for themselves. They used their space to showcase both Apple and third-party products, many of which were networked or shown working together under *MultiFinder*. Several copies of the new version of Hayes' *Smartcom* (3.0A), all running at 9600 baud on the same machine, had people oohing and aahing. All of the displays in the room were impressive and they drew good crowds to the somewhat out of the way location.

I was particularly impressed by two wall displays of add-in boards — 30 for the Mac II and 19 for the SE and Plus. Virtually all of those shown were actually shipping and there were a few that I know that were shipping that were missing. The bulk of the Mac II cards were video and prototyping cards (with a few memory cards thrown in). The more specialized boards are still a bit in the future. And, as you'd expect, almost all the SE and Plus boards were accelerators.

Comdex is still very much an IBM-oriented show, and that's especially so in the huge main hall, where the largest companies tend to have the biggest, gaudiest booths. Macs were hard to find in that room. There are two reasons for that. The first is that there just weren't many Macs out there, and those that were were usually relegated to odd corners in the big booths. The other reason is that most of the Macs on display were Mac IIs. And especially from 30 or 40 feet, Mac IIs have an uncanny resemblance to IBM ATs. You have to take a good look. That scares me a bit — was it accidental? In this day and age? Not likely. For whatever reasons, it's getting easier to look right past a Mac.

While the physical reality was IBM (and clones and clones and clones), almost every company is very aware of the burgeoning Mac market. And most companies claimed to be ready and eager to enter the market. This trend is particular-

ly pronounced among hardware companies, with printer manufacturers and memory producers leading the pack. Many software companies are also poised to enter the market in 1988. Overall, Comdex painted a surprisingly rosy picture of the Mac market.

Comdex is also well known for the premiums companies hand out in an attempt to get people to listen to their pitches. For example, Hayes was handing out one of their impressive new \$1000 (list) 9600-baud V series modems every hour. They were also handing out the best T-shirts of the show as consolation prizes.

ALMOST DOESN'T COUNT

Our Editors' Choice awards for 1987 are announced a bit further on in this



Overall, Comdex painted a surprisingly rosy picture of the Mac market.

issue. A few products nearly made our consideration deadline (October 15th), but were a few days late (we're talking 3 or 4 days here). During the somewhat rowdy final meeting, where we finalized our choices, we discussed and considered those late arrivals. Some are really excellent products, but none was good enough to earn an Eddy.

We did agree that a product that is still at least two weeks and maybe more from release (as this is being written in mid-November) would not only have been a

runaway winner in its category, but a very serious contender for Best Product of 1987. The product I'm referring to is Ann Arbor Software's *FullWrite Professional*. The beta versions show an excellent word processor with good graphics and page layout capabilities. We in the press have had the good fortune to be able to see and experiment with those beta versions of *FullWrite Professional*, and it is one awesome program. It's also the most looked for, reviled, over-advertised-too-soon Mac program so far. The publisher promised the editor of the *MACazine* that they could tar, feather and photograph him if the program didn't ship by the time the November issue of the *MACazine* appeared on the streets. They missed. Guess what photo *MACazine* has in its February issue. In spite of all that, it's sure to be one of my early favorites for Best Product of 1988. We'll have several of our best reviewers tell you *all* about it, just as soon as we get release copies.

WORDS AND SPEECHES

I've been fortunate enough to have attended several of John Sculley's recent public appearances. While he's always been a master at working the audience during question and answer sessions, his more formal presentations have tended to be somewhat stilted. It looks like those days are past. He's now not only informative and interesting, but a pleasure to listen to.

However, one of his recent themes disturbs me. He no longer ever refers to the Mac as a computer, or even a machine of any sort. It's a "technology platform." Apart from being remarkably non-euphonic, those words have some implications I don't much care for. He seems to be saying that personality has no place in our world, that human endeavor is second to technology. And that the Mac is merely a better wheel.

There's more to life than the bottom line. Totally depersonalizing personal computers might be the best way to the highest short-term profits, but it isn't the way to get the vast majority of people, who still don't use and probably don't much like personal computers, involved with them. It's sure a change from the early days of Apple, where loyalty was built on personality and performance.

Unfortunately, the rest of Apple's employees take their cues from Mr. Sculley and increasingly I've been hearing programs referred to as "platforms." Gee, could that mean that they have their own agendas and one day we'll all wake to discover all the *Excels* have taken over the

country? Now that's a sobering thought for a Sunday morning. Printers are also now "technology platforms." So are scanners. And modems. I guess if what you mainly deal with is profit and loss statements, everything is really the same, a line on a paper. A sad trend.

NUMBER GAMES

Apple recently released new System software, which includes *MultiFinder*. The whole group of files is packaged as *System Software Upgrade 5.0*. It comes with three manuals and is sold by Apple dealers (in a standard white Mac software box) for \$49. It's also available from most user groups and can be downloaded from electronic services. It'll probably appear soon on local BBSs. However, only those who buy the whole package from a dealer get the good, and rather extensive, manuals.

System Upgrade 5.0 is Apple's attempt to rationalize the chaotic numbering system that has afflicted its System software. The reasoning is that despite the wide disparity in version numbers of the individual files (see our regular "Updates" in New On the Menu), you can just ask for *System Upgrade 5.0*. That will work in

some cases. But some people and organizations, who will deal with the upgrade on something other than an all or nothing basis, will still be faced with the mass of confusing numbers.

One of the worst problems of the hodge-podge version numbering still plagues us. The *System* before the current version 4.2 was 4.1. That unfortunately was the version number of the *Finder* that went with *System 3.2*. Is that clear? We often get calls from people who have run into problems and need immediate help. They often don't promptly upgrade (which is not a bad idea for most people) and aren't sure what they have. Is it *System 4.1* or *Finder 4.1* that's causing the problem? In fact, how can you tell what *System* you are running? That wasn't a trivial question with earlier *Systems*.

Most users couldn't tell you what the version numbers of every piece of System software they are using are. And most people are mixing bits and pieces, at least when it comes to the utilities. The final problem involves only those people using laser printers on a network. There are problems — big problems — unless everyone on the network is using the same version of the driver and prep files.

The least Apple could do is make the version numbers of all major components of a System software upgrade the same. Why can't they jump the *System* version number to that of the *Finder*? And why can't the other version numbers be brought into conformance? IBM went through this dilemma long ago with its mainframe software and now, when they change one version number, they change them all. Is Apple petulantly saying that because IBM does that, they won't? I hope not. That's exactly what Data General, a minicomputer manufacturer formed by DEC employees, does in regard to DEC developments. If DEC does it, DG will do it another way. It's the opinion of most professionals that that attitude has hurt DG.

Apple's explanation is that the files and programs are developed by different groups who have their own managers and reporting chains and they need to keep track of and set the numbers for themselves. That doesn't wash. Surely there is some manager of System software who can rationalize this situation. I hope that the next System software upgrade fixes this situation. There's no reason not to. ☐

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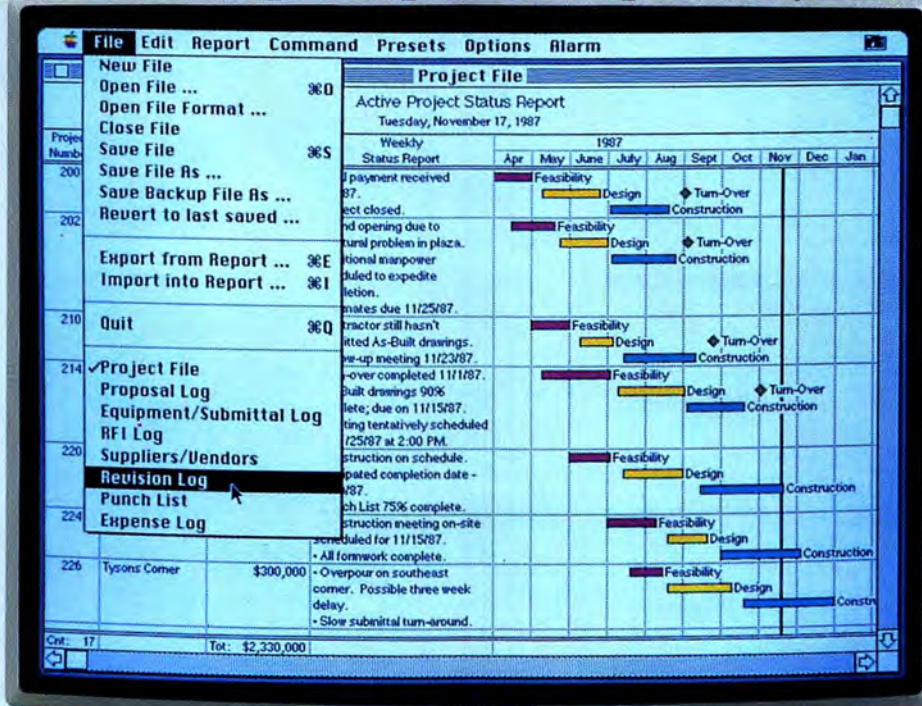
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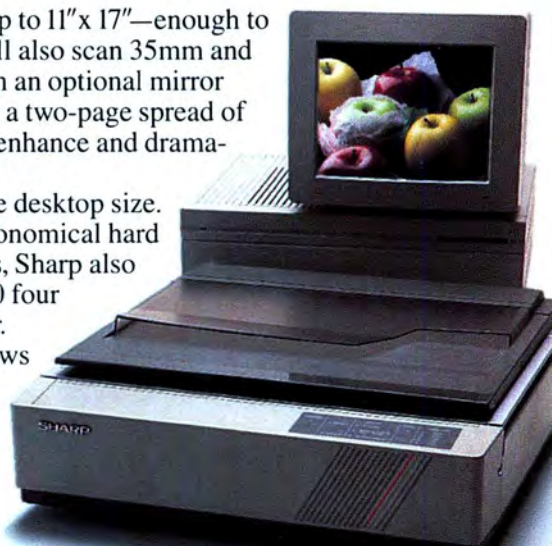
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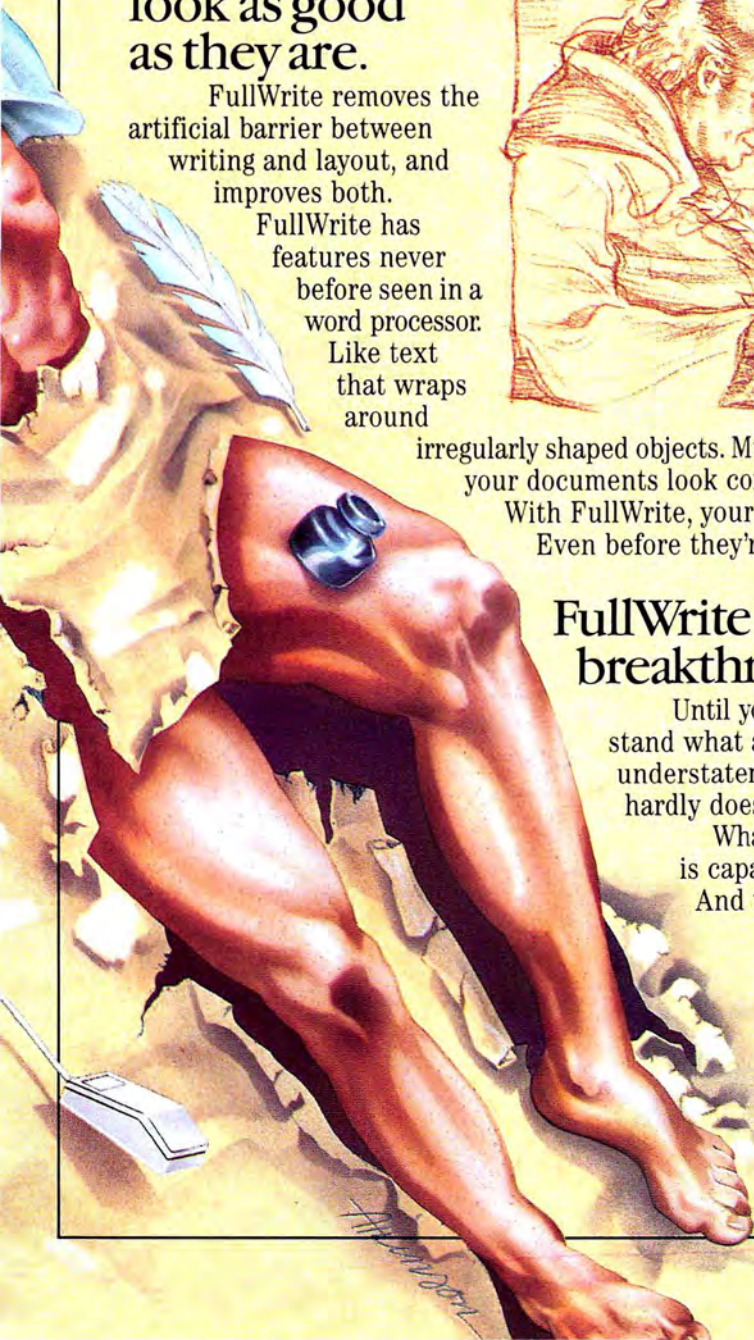
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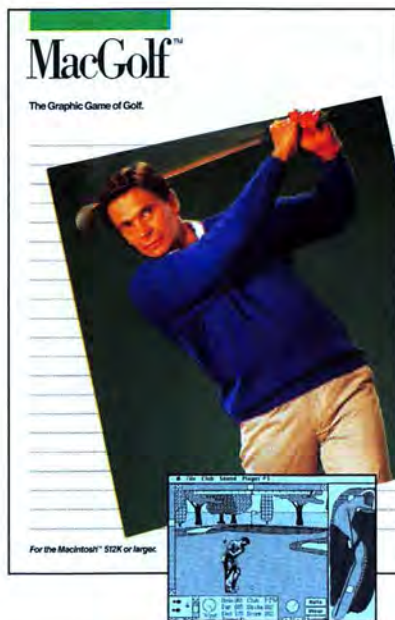


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by Neil L. Shapiro

In Living Kolor

My friend had just purchased a Mac II for his business. He was over at my place so that I could share with him various public domain and freeware "goodies" for his new machine.

PINUPS AND DUCKS

Well, when I turned on my Mac II it first cycled through its opening repertoire of startup-screens (Cheryl Tiegs, some colorful balloons, Uncle Scrooge and the "Birth of Venus"). But it was when the Mac II settled down to the desktop that my friend's mouth fell agape. He became speechless. All he could do was breathe heavy and point.

First I couldn't understand what was wrong. The screen looked the same as it always had.

My beautiful glove-leather colored main menu bar stretched across the top of the screen. I had just moused to the File menu and the pull-down menu repeated the menu bar's hue a dozen shades lighter. The main window beneath featured a red title bar and scroll bars, brought into some semblance of civility by quieting yellow overlays of title text and yellow-toned scroll bar fill.

The desktop pattern beneath the window was a very light yellow with a tiny, almost invisible design weaving through it in another leather-like coloration. And the icons between the main disk and the trash can blushed in varying gradations of tone and color.

"It's not gray," my friend whimpered. "It's not gray. Ohhhhhhhhhhhhh. What am I doing wrong?"

Well, he wasn't doing anything wrong. At that time it was Apple that was doing something wrong. In fact, they might still be doing it wrong. Keep in mind that this column is being written at least 2 months, maybe 3, before you're reading it. It's possible that Apple has fixed what I am about to talk about. But even if they have, I'll tell you why it still needs to be discussed.

KOLOR WITH A "K"

The issue is the CDEV named *Kolor*. This is a control panel device that was written by Apple programmer Russ Wetmore. He wrote it in response to a num-

ber of requests (made via telecommunications) from people who had Mac IIs and wanted to be able to access the machine's color abilities. He uploaded *Kolor* and made it available to various user groups with caveats as to copyright and Apple's actual ownership of the CDEV in the accompanying documentation file and in the CDEV's title screen.



Kolor is the most beautifully designed human interface I have ever seen for interactively adding color to the Mac II screen. It's not just intuitive; it's tutorial.

It shows every part of the desktop interface separately in the CDEV window. For example, the section of the CDEV's screen that deals with menus shows a small picture of a menu bar with a menu pulled down from it. Next to the picture are four check boxes which indicate choices of "Menu bar," "Menu title text," "Item background" and "Item text."

Click on the "Item background" choice. First the little picture begins to flash in the area behind the type of the pulled-down menu to give a visual indication of exactly what the choice refers to. Then the screen clears to a Color Picker, a wheel of colors. Using the mouse, it's simple to mix the exact shade of color you want.

Then, after returning to the CDEV, the graphic itself is colored as you have chosen, as well as the check box related to that choice. You can't go wrong.

In the same way you can choose to pick a color for desktop interface parts from buttons to scroll bars, text highlighting, even the window title bars and the lines that overlay them when selected and, of course, different colors for the various

areas of typography in both menus and windows.

Well, when *Kolor* hit the "street," I expected that it would be met with a wave of unanimous acclamation. It *was* met with such a wave from the user community.

Anyone who had a Mac II and who had *Kolor* just went happy-crazy with finally, at last, hooray!, being able to feel like they were the ones in charge of their own computer. People suddenly were able to have their screens reflect how they thought a most personal thing — color — should be used. I don't know of anyone who has tried *Kolor* who has not become a konvert.

Well, except that there were a few people at Apple who insisted that color was simply not The Way For The Macintosh II To Operate. (These people never say Mac II, always Macintosh II.) They did not want people to have this power over their hardware because, heaven forfend, someone might make puce scroll bars in a Fortune 500 office and embarrass Apple.

For a while it looked touch and go. Apple was making no move to include *Kolor* or anything like it on their Mac II System disk (me, I *never* say Macintosh II). Then it seemed that cooler heads would prevail.

MultiFinder went out to developers and it allowed for icons to be colored and for a colored desktop pattern. (The second step in amazing my friend earlier.) It seemed that color and *Kolor* might have won at the orchard.

But then, what happened to *Kolor*?

My best information has it that it will not make the release *MultiFinder* System disk (keep in mind when I am writing this) because of some conflicts with the ROM's Palette Manager. Basically, some applications want to put up their own colors and *Kolor* can clash with their choices or even cannibalize them. Personally, my reaction to that is "big deal." I don't think it would bother anyone at all. Ever.

If you out there in the future of Mac II civilization as I know it, do, indeed, have *Kolor* on an Apple-supplied disk, that's great. Glad to hear it. If, however, you do not yet have *Kolor* in your Mac II control panel then Apple Computer should get off the wagon and onto the palette.

Apple: Please release *Kolor*!

Let my CDEV go!

GAMES GO BOOM

If *Kolor* has been released have I wasted all of our time this month? Well, no, because I think this discussion segues (I can

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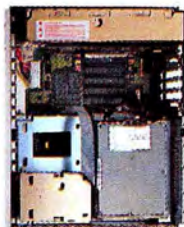
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spell but not pronounce that word) nicely into a brief look at what's wrong with Apple's attitude toward the Mac II.

Apple tends to take the Mac II (or the Macintosh II) just too seriously. Keep in mind that when the Mac first came out it was greeted as a "toy" computer. The hardest thing that Apple had to overcome in order to establish the Mac as a viable—and preferable—alternative to the IBM PC was the mistaken impression that the computer just wasn't a serious machine.

I know of at least one game manufacturer who has told me that even though they were among the first to release products for the Macintosh, they were treated as worse than second class citizens by Apple. It seems that at the beginning, Apple just did not want people to perceive the Mac as a game-capable computer. [*Editor's Historical Note: In 1984, a game magazine for which I then worked ran a picture of the Mac on the cover with the line, "The Macintosh: A Secret Game Machine" (or words to that effect). Shortly after it hit the stands, communication with Apple came to a virtual standstill. The situation was resolved only by the eventual demise of the magazine. Not the most efficient solution. — LK*]

Finally, as the Mac became more accepted and people began to realize that the Mac was a power computer without peer, some games began coming out for the Mac. I think that it's important that games are available on a computer system.

I think that for two reasons. First it fulfills the needs of the user base. Second, it enhances future developments in business-oriented software for that system.

Take a look at the software racks in your local computer store for the IBM PC. How many games do you see? There may not be as many as for the Commodore 64, but there are probably as many as for the Apple II. Yet, no one would deny that the IBM PC is a business machine. People just want games. It is a market segment that simply must be exploited.

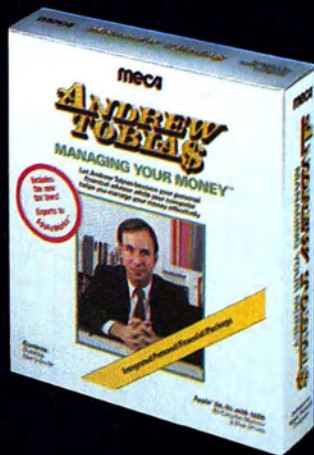
And, as I have said before, it is game designers who almost always push a machine past its known limits. Games' animation, graphics and memory-intensive processing require a superb understanding of a computer system to be successful. Without game designers pushing at the frontiers of a computer system's "maybes" there might not be many surprise accomplishments in software in the future.

Well, on the regular Mac flavors, Apple seems to have given in, rather un-

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gracefully, to this advent of gaming. While they do not have an active Evangelism movement to recruit new game designers (and they should do this!) they at least no longer discourage them.

But on the Mac II front things are beginning to look absolutely disastrous for game and entertainment software.

I have a Mac Plus and a Mac II. There's no reason at all for me to have a Mac Plus except that my Mac II will not run most games. It is incompatible with maybe 90 percent of Macintosh game software. And things are not getting better.

When I get a new game, I don't run it on the Mac II to see if it is compatible. I run it on the Mac II because I am curious as to *when* it will bomb (not if).

Now, OK, this is not exactly Apple's fault. The games bomb, for the most part, because the game designers do not follow Apple's published guidelines as to how to program graphics directly to the screen.

Apple's attitude seems to be that it's not their problem because, hey, they did publish those guidelines.

But I think we are seeing the same mentality at work here that stood in the way of *Kolor*. There are certain "serious" things that Apple cares about in relation to their Macintosh II. There are other "frivolous" things that clearly take a back seat.

If almost all new spreadsheets were bombing out on the Mac II, do you think Apple would shrug and say that the programmers ought to read the Tech Notes? No, there'd be an army of software evangelists on the phone and making personal appearances.

MACS TO THE MAX

Apple needs to realize that many of the same things that made the Mac a world-wide standard are some of the same things they seem to be unjustifiably wary of, including in the Mac II. Just like the Mac, the Mac II needs to be a fun computer in the sense that it gives full and free rein to the creativity of both users and the programmers. The Mac II needs to be a computer which, like the Mac, can be seen as malleable and controllable and understandable by the people who will buy it, use it and hopefully love it.

Apple has to realize that not every use of the Mac II will be a Fortune 500 use and that, indeed, it would hurt the computer if this were true.

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HYPERCARD WARPED

The idea behind *HyperCard* is boundless, but the implementation is just as crippled as *MacPaint* and the original 128K Mac. Supposedly, *HyperCard* allows users to customize the machine to their own needs. Sure it does, but we can only have cards the same size as the original Mac screens. Grand assumptions like this cripple its effectiveness. Not to mention the awkwardness of things such as automatic indentation (nice try, but what a clunker); separate "modes" for browsing, authoring, painting and scripting; and poor support of the LaserWriter. And, of course, thanks for putting the script editor in a dialog box. Ugh!

MacPaint was nice, but it took programs like *GraphicWorks* and *Illustrator* to turn the Mac into a professional's tool. I predict *HyperCard* will be dwarfed — as *MacPaint* was — by programs that take the hypertext idea to the limit. First there will be patches and work-around DAs and stacks. Then a new generation of muscle programs or "Stack-Shops" will emerge that let the users do what they really want. Only then will *HyperCard* attain its rightful place on the shelf alongside *MacPaint* and the 128K Mac as the first but inadequate representative of a new generation.

MICHAEL SCARAMOZZINO
PROVIDENCE, RI

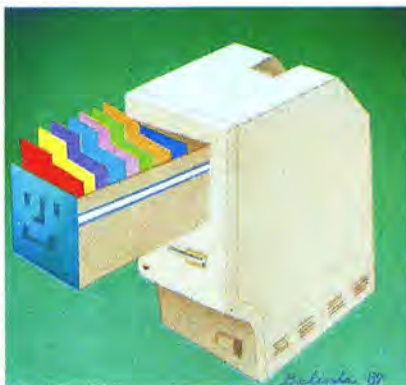
EDUCATION ECHO

I read with great interest Michael D. Wesley's article "Pied MacPiper" (Nov '87) and wholeheartedly agree. Our household includes two children (ages 8 and 11), an Apple IIe, a Mac Plus, a dog and various other consumer durables. While the children have used the Apple II on a limited basis, each has found the Mac a more friendly and useful computer for their schoolwork.

The argument that there are thousands of education programs available for the Apple is a non sequitur. Most schools have a difficult time getting more than two or three software packages because of budget constraints. What is upsetting is the radical difference between what

Chairman Sculley says about how we must use the latest technology if we are to compete in the global economy and Apple's promotion of the older Apple II standard upon our future. Isn't Alan Kay's work getting through to the powers that be? While one can argue that any computer literacy is better than none, why not use equipment most suited for the future?

STUART GREENFIELD
AUSTIN, TX



WHAT A CARD

Doug Clapp's "It's a HyperKick" column (Nov '87) has to be one of the best computer columns of all time. Personally, I'm not sure Apple was right to bundle *HyperCard* (Mr. Shapiro's comments in the same issue are well taken), but I like the way Mr. Clapp pointed out the "stomping Microsoft" angle. I haven't touched my copy of *MS BASIC* since I got *HyperCard*.

On another matter: Has it occurred to anyone else that *FullWrite Professional* may not be a software product at all but a "workfare" project for an advertising company?

TED JONES
SAN FRANCISCO, CA

There have been various FullWrite theories advanced, including the hypothesis that they're just marching to a different drummer — or using a Mayan calendar. However, I'm going to stick my neck out and predict that you'll be seeing the working product by the time this sees print.

— LK

WYSIWYG REVISITED

Regarding the "Dump WYSIWYG" letter in the Nov '87 issue:

1) WYSIWYG works better if you use Adobe screen fonts instead of Apple's screen fonts. For italic, you get real italic, not a cheap QuickDraw imitation.

2) The main features that *nroff* and

TEX (pronounced "tek") have that most Mac word processors or DTP software lack is a flexible numbering scheme for sections, figures, tables and equations. Automatic table of contents generation and index preparation would help, as would style sheets and the ability to do sweeping font/style/size changes.

Some word processors/DTP programs do some of these, but personally I have wanted all of the above features in one Mac word processor. *nroff* and *TEX* are essentially programming languages that generate documents. They are too hard to use for most people, including many programmers. I've used *nroff* for about 3 years, and can personally attest that it is a mess. It took me about 2 years to get boldface to work. Nobody uses two-column mode because it causes so many other things to break.

ALLAN BONADIO
SAN FRANCISCO, CA

RADICAL LEFTISTS

As the owner of a Mac Plus I have decided not to upgrade to an SE in the near future. The reason is the keyboard. I, like many other Mac users, am left-handed. The keyboard on the Plus is highly functional for me, especially with the occasional use of the optional data pad. On the other hand, the keyboards for the SE and Mac II are definitely frustrating. Not only are the numeric keyboards on the wrong side, the entire board does not feel right. I suspect that a survey of Mac owners would show that the percentage of left-handed Mac owners is much greater than the percentage of left-handers in the general population. Given that the keyboard must now be purchased separately, I suggest that Apple strongly consider putting out a keyboard for "the rest of us."

GERALD B. HUGHES
NORTHERN ARIZONA UNIVERSITY
FLAGSTAFF, AZ

Your point's well-taken. However, we'd be interested in hearing what the basis is for your "leftist" claim about the Mac user population! — LK

ON THE WIRE

I won't whine about how Apple and the Macintosh press seem increasingly to be forgetting those of us who bought into the Macintosh back when the choice of Macs was 128K or 128K. I take some pride in possessing what I call the Macintosh Classic. Maybe it'll be a collector's item someday.

An unrelated matter: We use a Mac Plus in the newsroom at WXRT Radio

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(93.1 FM) in Chicago. Can anyone refer us to a company that offers a program that will receive, store, recall and re-write UPI (and Chicago City News Bureau) wire-copy on the Mac?

CHARLES MEYERSON
OAK PARK, IL

We don't know of any software to accept UPI transmissions. UPI uses a non-standard ASCII, so a translation program would be necessary. Anyone out there willing to work on a solution? — BT

HEFTY SUPPORT

In her Oct '87 review of *4th Dimension* Prof. Harrington questions Acius' support and lists the lack of support as the single "Worst Feature."

Wrong. Anyone concerned over the quality of support for *4D* should know that their concerns have been addressed at length and well.

Once I discovered the *4D* Data Library in CompuServe's MACBIZ Forum I was blown into some dimension beyond merely four. Acius Tech Support must live on CompuServe. In one case I got a response at 1 o'clock in the morning from a query I listed at midnight. That's a complete response including references, code fragments, compiled external procedures and words of approval and encouragement.

RICHARD RAY
EUGENE, OR

In all fairness to both parties, at the time Ms. Harrington wrote the article, Acius' Tech Support was in some other (inaccessible) dimension. It is now greatly improved, and has been receiving rave reviews. — LK

DOWN IN THE 4TH

In Harrington's review of *4th Dimension* in the Nov '87 issue shows an incredible lack of insight. Letting the sentence "Anything *Omnis 3 Plus* can do, *4th Dimension* can do better" go unanswered would be a disservice to your readers.

First and most important, there is *Omnis'* speed. The data import/export function is of prime importance: *4th Dimension* took four hours and twenty minutes to import a SYLK file of some 4000 records; *Omnis* took a mere 46 minutes to import the same file. Second, *4D's* only multi-user capability is allowing shared documents. Each user on a network must have his or her own copy of *4th Dimension* in order to work with the program. By contrast *Omnis 3 Plus* is a true multi-user system which allows sharing of the program itself.

This is not to say that *4th Dimension* does not have strong points. *4D* does do a lot more than *Omnis 3 Plus*. But to paraphrase Ms. Harrington "everything *Omnis 3 Plus* does, it does better than *4th Dimension*."

DANIEL P. KIECHLE
HUNTINGTON, NY

LASER WAR II

Laser printer wars are no joke. After serious battles over price/value, functions, vendor reputation, speed, etc., I had practically raised the white flag and decided to wait for the next onslaught of laser printers with color capability. But then NEC came to my rescue.

I've been extremely pleased with the NEC Silentwriter LC890. It comes with 3 megabytes of memory, 35 resident fonts, standard AppleTalk interface and more. The manual is still a draft, but it is clear and fairly well written. I've done a fair bit of work on a LaserWriter, but I believe the Silentwriter wins the laser printer wars hands down.

NEIL P. FORKER
STAFFORD, TX

TYING UP RIBBONS

Scott Brainard's article on re-inking in the September '87 issue (so I'm a little behind in my reading) has an error in it, and leaves out a bit of information that may cause ribbon fiddlers some problems.

Black ImageWriter ribbons (at least all that I've seen) do not print on "only the center one-third of the ribbon." They print on both the upper and lower halves of the ribbon. The ribbon has a half-twist in it that makes it a Mobius strip, hence topologically one-sided. The printhead uses one-half of the ribbon but, as the "one-sided" loop feeds around, it prints on both the upper and lower parts of the ribbon width. This allows for more complete ink usage, as well as distributing the printhead wear over twice the surface area.

The diagrams should show this half-twist, which takes place in the exit chute between the coil chamber and the slot leading out of the cartridge. In particular, persons replacing the ribbon should insert the half-twist before splicing the ends together if they wish the longest possible ribbon life.

PHIL RYALS
FREMONT, CA

SELLING OUT

I was with alarm that I read the recent communication from Microsoft offering to pay a \$75 bounty for the original

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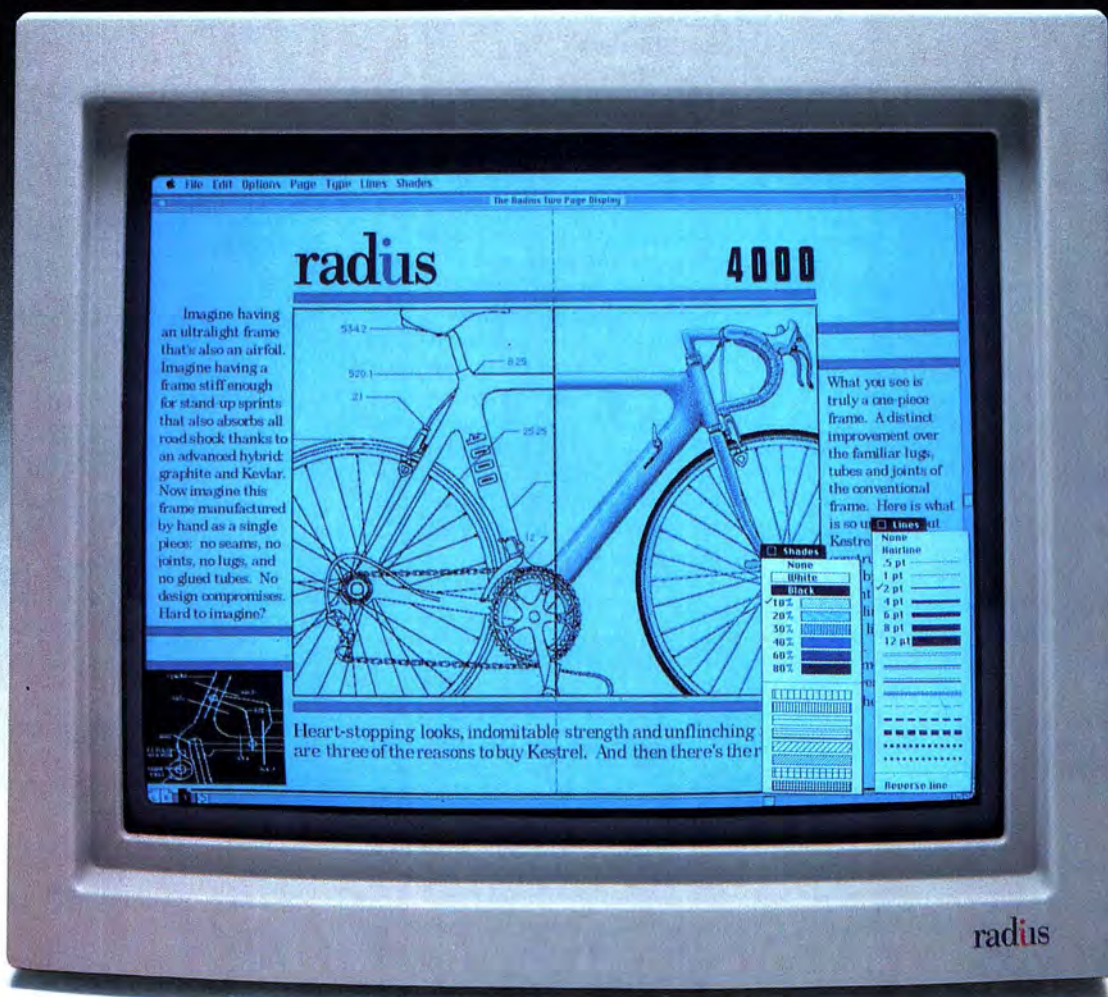
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Please circle 156 on reader service card.

copy of my beloved *MacWrite*. Family loyalties being what they are, they might as well have offered to swap children — one of ours, well-loved and nicely house broken, for \$75 plus one of their androids. I realize not everyone thinks of *MacWrite* as a family member. I may, indeed, carry my affection to an extreme. But this program taught me to use my Mac, made editing fun, and continues to help me earn a living producing brochures and film animation in my graphics studio.

I *t was with alarm that I read the recent communication from Microsoft offering to pay \$75 for the original copy of my beloved MacWrite. Family loyalties being what they are, they might as well have offered to swap children.*

Microsoft's letter caused me and my old friend *MW* immediate consternation. The letter began with a visual put-down: an illustration of a toddler's tricycle bearing the name *MacWrite*. The ad copy said that what I need, now that I'm all grown up, is *Microsoft Word* version 3.0. Then, to my horror, Microsoft proposed to send me \$75 for my original *MacWrite* disk if I included a receipt showing I had paid \$200 or more for *Word* 3.0. They provided an envelope to facilitate this disloyalty and added that if the original *MacWrite* disk couldn't be found, I could deface the *MacWrite* manual by removing the title page and sending that. At this point, my *MacWrite* whimpered softly and laid its head on my knee. "There, there, old fellow," I said, stroking *MacWrite* reassuringly. "Not to worry. They're not going to get you or your manual."

For those of you without sentiment for old and trusted friends and who may be thinking of betrayal, I say think again. It is the year 2002, a mere 15 years from

now, and you have just read an article in *MacUser* about the thousands of dollars paid at a New York Antique Software Expo for a mint copy of the original *MacWrite* disk plus manual. Hard to believe you could have traded yours for \$75.

J. R. HARPER
PEARL RIVER, NY

\$40 TOO MUCH

I was surprised to learn that Adobe Systems is asking for \$40 for an "upgrade" to remove copy protection from its fonts. Tying fonts to a single printer was Adobe's idea, even though it was known that copy protection would make it difficult for users to load and use fonts. Removing copy protection is certainly welcome, but the most I would be willing to pay is \$5 or \$6 per font. The \$40 upgrade charge is not fair. Adobe should be thankful to customers who made it what it is today.

DILIP GOHIL
PLEASANT HILL, CA

IMPERSONATION ROUTINE

I use Macintosh software at home for filing, letter writing and the like. I'm not using a Macintosh computer, however. I have been using Data Pacific's Magic Sac Mac emulator on my Atari ST for several months now. The latest revision of the Magic Sac software (version 4.52) runs over 95 percent of the software for the Mac and emulates a 640 by 400 pixel screen at the speed of a Mac SE. If software publishers stated on their product package that they are Magic Sac compatible, it would eliminate some of the uncertainty when purchasing software.

DARIN ACQUISTAPACE
CAPITOLA, CA

SAFE AT 1ST

About a year and a half ago I bought a *1st Base* data base program and was reasonably pleased with it. Then, several months ago, I contacted the company with a question and learned the program had been sold to 1st Desk Systems. 1st Desk Systems has an 800 number and put someone on who answered my question and offered me an update at a nominal cost, which I ordered. I again had problems and sent the company two problem disks. After only seven days, the disks were corrected and mailed back. 1st Desk's good service needs to be recognized. There is a difference in the level of service between software companies and the buying public responds with their pocketbook.

JOHN LINDGREN
ST. SIMONS ISLAND, GA

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Programs & Peripherals

Picks of the Month



Expressionist

by Allan Bonadio Associates



Expressionist is a unique desk accessory that allows you to generate typeset quality mathematical expressions to be pasted into any word processor or page layout program. *Expressionist* allows you to enter equations as easily as you enter text using the keyboard and icons to generate equation symbols to use in your documents. With nothing to memorize and the ability to re-edit your equations later, it's no wonder MacUser

Magazine awarded FIVE MICE to this powerful yet simple program!

Expressionist 46.

QuickKeys by CE Software

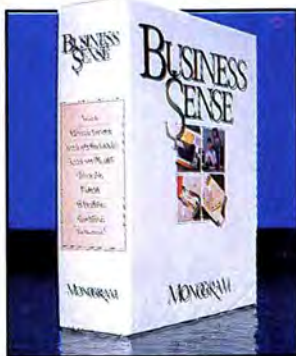
QuickKeys is a keyboard enhancer for your Mac that allows almost anything you can do with your mouse and keyboard to be done with one keystroke. Just drag *QuickKeys* into your system folder, open the control panel, select a feature from the menu, press a key and... Zap! the feature is there. *QuickKeys* is powerful yet simple and includes *Quick Access*, a bonus program that will create and modify sets of keys and print keyboard templates for the functions you've created.



QuickKeys 65.

Business Sense by Monogram

Business Sense is a powerful, easy to use, integrated accounting package that includes G/L, A/R, A/P, Payroll, Invoicing, and Budgeting functions which provide a full-featured accounting system. *Business Sense* is designed to serve in any business environment. It can manage up to 2000 employees, 2000 vendors and 2000 customers and handle checks up to a trillion dollars! Move from module to module with a click of the mouse and get your business in order with *Business Sense*!



Business Sense 285.

Utility Software

ALSoft		Icon-It! (Assign Icons to Menu Items)	40.
Disk Express 1.10	26.	Read-It! TS (For Thunderscan)	89.
Berkeley System Design		Read-It! O.C.R. (For Image Scanners)	179.
Stepping Out (Macintosh Screen Extender)	55.	Software Supply	
CE Software		Suitcase or Power Station	38.
QuickKeys (Macro Program)	Special 65.	SuperMac Software	
DiskTop 3.0		SuperSpool (ImageWriter Print Spooler Utility)	42.
(Portable DA Finder)		SuperLaserSpool	82.
CalendarMaker 3.0	32.	Multi-User SuperLaserSpool	199.
(Custom Calendars)		Diskfit 1.3	32.
Central Point Software		(Backup & Restore Utility)	54.
Copy II Mac (Includes MacTools)	22.	Sentinel	82.
Fifth Generation Systems		TOPS	
FastBack For The Macintosh	59.	Tops For The Macintosh 2.0	119.
Infosphere		Williams & Macias	
MacServe (Network Software)	164.	myDiskLabeler	24.
LaserServe (LaserWriter Print Spooler)	64.	myDiskLabeler w/Color	32.
ComServe (Modem Sharing Software)	124.	myDiskLabeler	35.
Olduvai Software		w/LaserWriter Option	
DA-Switcher II		Working Software, Inc.	
(Switch Multiple Sets of DA's)	25.	Findswell (Document Finder)	29.

Desk Accessory Programs

Affinity Microsystems		Imagine Software	
Tempo 1.2	54.	Smart Alarms &	
AffiniFile	49.	Appointment Diary	35.
Borland SideKick V2.0	69.	Multi-User Appointment Diary	
Cortland		with Smart Alarms	95.
Top Desk	33.	Solutions, International	
Greene, Inc. QuickDex 1.4	24.	SmartScrap & The Clipper	Special 35.

Languages

Apple Computer		Mainstay	
MacPascal	99.	V.I.P. (Visual Interactive Programming)	85.
Borland		Microsoft	
Turbo Pascal	69.	Microsoft Basic Interpreter 3.0	62.
Turbo Pascal Database Toolbox	69.	Microsoft Basic Compiler 1.0	119.
Turbo Pascal Numerical Methods	69.	Microsoft Fortran Compiler 2.2	169.
Turbo Pascal Tutor	49.	THINK Technologies	
Consulair		Lightspeed C	95.
Macintosh 68000 Development System	59.	Lightspeed Pascal	65.

Communications Software

Apple Computer MacTerminal	99.	Think Technologies, Inc.	
Compuserve		InBox-Starter Kit V2.0	
Compuserve Starter Kit	24.	(3 Personal Connections)	199.
DataViz MacLink Plus with Cable	149.	InBox-Mac Connection	69.
Software Ventures		InBox-PC Connection	
Microphone 1.1 (Includes Glue)	119.	(Req. AppleTalk Card)	109.

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"Draw it again, Sam" 95.

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Spelling Coach Professional 109.
Spelling Coach (spelling checker only) 59.

SmartScrap & The Clipper by Solutions International

SmartScrap & The Clipper includes two desk accessories that enhance the way you deal with your clip art. **SmartScrap** is an improved scrapbook DA that allows you to see all your clip art by scrolling and lets you keep multiple scrapbooks on any disk. And, **The Clipper** is a great cropping and scaling tool that determines the dimensions of an area where a picture is to be pasted, reducing or enlarging it to the exact dimensions needed.

SmartScrap & The Clipper 35.



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Ready Set Go! 4.0 279.

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Hard Drive for MacPlus)	629.	Rodime Rodime 20 Plus	
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Digitizer V2.0 w/Soundwave	149.	ThunderScan V4.0 with Power Port	
Koala Technologies Corp.		(Mac 512K, 512K Enhanced,	
MacVision (Digitizer)	169.	MacPlus, and Macintosh SE)	199.

Accessories

Abaton ProPoint (ADB TurboMouse		Apple Security Kit	34.
for Mac SE & Mac II)	119.	Polarizing Filter	33.
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Cambridge Automation Numeric Turbo	99.	Control Center	63.
Central Products		System Saver Mac (Beige or Platinum)	64.
MacOpener (All In One Mac Tool)	16.	A/B Box (MacPlus Only)	63.
Curtis Manufacturing		Turbo Mouse (Reg. or ADB)	82.
Diamond-Surge Suppressor-SP-1	29.	Lightgate Felix (Second Generation	
Emerald-Surge Suppressor-SP-2	36.	Pointing Device)	99.
Ruby-Surge Suppressor-SPF-2	55.	Mouse Systems A+ Mouse (MacPlus)	69.
Sapphire-Surge Suppressor-SPF-1	47.	A+ ADB Mouse (Mac SE/ Mac II)	89.
DataDesk MAC-101 Keyboard/Beige		Moustrak MousePad 7"x9" Size	8.
(128k/512k & MacPlus)	159.	MousePad 9"x11" Size	9.
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Mouse Cleaner 360°	15.	Orange Micro Grappler C/Mac/GS	
I/O Design		(Parallel Interface for the Mac)	65.
Mac Luggage Available in Navy		Nuvotech	
or Platinum Gray		EasyNet (Specify Din 8 or DB-9)	28.
Macinware Plus Carrying Case	64.	Ribbons Unlimited	
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Kensington External Disk Drive Cover	8.	(Very Effective Cardboard	
Mouse Pocket (Reg. or ADB)	8.	Laminate Convection Cooling Device)	16.
Mouseway (Mousepad)	8.	SoftStyle MacEnhancer	175.
ImageWriter or ImageWriter II Cover	9.	The Madson Line	
Macintosh (Plus) Dust Cover	9.	Professional Series Carry	
Mouse Cleaning Kit w/ Pocket	17.	Cases In Black Ballistic Nylon	
Disk Drive Cleaning Kit	20.	Mac(Plus) Carry Case	79.
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Centech 3 1/2" SS/DD Color Disks		(box of 10)	19.
(box of 10)	16.	Sony 3 1/2" DS/DD Disks (box of 10)	18.
Fuji 3 1/2" SS/DD Disks (box of 10)	13.	Fuji 3 1/2" DS/DD Disks (box of 10)	19.
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w/Smartcom II & Cable	359.	Promodem 2400	
Smartmodem 2400	449.	(Hayes Compatible)	309.
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Transet 1000-512K	429.	(Specify Mac or MacPlus)	49.
Transet 1000 Mac Accessory Kit	29.	U.S. Robotics	
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(Connect AppleTalk Networks)	599.	Courier 2400 (Hayes Compatible)	349.
Migent		Courier 2400E (Hayes Compatible)	409.
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AppleShare or Hypernet 2-5 users)	489.	ProVUE Development OverVUE 2.1	149.
Borland Reflex Plus	179.	Software Discoveries RecordHolderPlus	45.

Business Software

Apple Computer MacProject	159.	Mainstay Think 'n Time	
Bravo Technologies MacCalc	85.	(Time Management Package)	69.
Crickit Software Cricket Graph	124.	Micro Planning Software	
Crickit Presents...	289.	Micro Planner Plus	299.
Pict-O-Graph	105.	Microsoft Microsoft Works 1.10	185.
Deneba Software Comment		Microsoft Multiplan 1.11	110.
(Attach Electronic Notes to Files)	59.	Microsoft Chart 1.02	72.
Layered		Microsoft Excel 1.04	224.
Notes For Excel, Jazz, PageMaker,		Microsoft PowerPoint	Call
Microsoft Works or Word 3.0 (each)	41.	Satori Software Bulk Mailer 3.0	82.
Legisoft/Nolo Press WillMaker 2.0	30.	Bulk Mailer Plus	195.
Lotus Jazz 1A	179.	Legal Billing	369.
Lundeen & Associates		Legal Billing II	539.
WorksPlus Commands	62.	Project Billing	439.
MacroPac International		Turner Hall Publishing	
101 Macros For Excel	45.	MacSQZ!	59.

Word & Outline Processors

Apple Computer MacWrite	99.	Microsoft Write	109.
Living Videotext		MindWork Software MindWrite 1.1	159.
More 1.1C (Color Version)	Call	Symmetry Acta V2.0	37.
Microsoft Microsoft Word 3.01	239.	T/Maker Company WriteNow	98.

Spelling & Grammar Checkers

Aegis Development		Coach Merriam Webster's	
Doug Clapp's Word Tools	42.	Thesaurus 2.0	36.
A.L.P. Systems MacProof 3.0		Lundeen & Associates	
(Requires MacPlus)	125.	WorksPlus Spell 1.1	46.
Batteries Included		Microlytics, Inc.	
Thunder! (Interactive Spelling Checker)	31.	Word Finder (Synonym Finder)	39.
Deneba Software Spelling Coach 3.0		Sensible Software	
(Webster's/Medical)		Sensible Grammar	57.
Legal/Hyphenation)	Special 59.	Working Software, Inc.	
Spelling Coach 3.0 Professional		Spellsweil 2.0	42.
(Adds Definitions &		Spellsweil Medical or Legal Dictionary	57.
Thesaurus)	Special 109.	Lookup (Makes Spelling Suggestions)	29.

Desktop Publishing

Addison-Wesley TEXTures	279.	Postcraft International, Inc.	
Aldus Corporation PageMaker	399.	Laser FX (Special Effects	
Allan Bonadio Associates		for Desktop Publishing)	125.
Expressionist 1.11		Quark, Inc. QuarkXPress	479.
(Equation Processor)	Special 46.	Solutions, International	
Boston Publishing Systems		Super Glue	
The MacPublisher III	119.	(Graphics Integration Software)	55.
Letraset Ready, Set, Go! 4.0	Special 279.	Target Software Scoop	299.
ImageStudio		Word Perfect Corporation	
(Image Processing Software)	279.	Word Perfect for the Macintosh	199.

Accounting Packages

Chang Labs		Insight Expert G/L, A/R, or A/P	359.
New Enhanced Version III Modules!		Insight Multi-User	
Rags to Riches GL, AR, or AP	120.	A/R, A/P, or Inventory	529.
Rags to Riches 3-Pak (GL/AR/AP)	289.	Migent In House Accountant	119.
Inventory Control or		Monogram Business Sense	Special 285.
Professional Billing	239.	Dollars & Sense 4.0	89.
Professional 3-Pak		Peachtree Back To Basics Three Pack	
(GL/Professional Billing/Payables)	349.	(GL/AR/AP)	139.
Retail Business 3-Pak	349.	Survivor Software MacMoney	
Layered Insight One Write	199.	(Financial Planner)	41.

Statistics & Math Packages

BrainPower		Borland Eureka! The Solver	129.
StatView 512 Plus	175.	Systat Systat 3.1 (Specify Mac 512K,	
Math View Professional	145.	MacPlus, or Mac II)	459.

Graphics Software

ABA Software		Comic People	26.
Draw It Again Sam...	Special 95.	Miles Computing	
Adobe Systems Adobe Illustrator		Mac The Ripper, Orchestra of Fonts,	
(MacPlus, SE & Mac II)	379.	People-Places-Things, or	
Altsys Corp. FONTastic Plus	48.	Taking Care of Business (each)	27.
Fontographer 2.2	239.	Mindscape ComicWorks	47.
Ann Arbor Softworks Full Paint	53.	GraphicWorks 1.1	87.
Apple Computer MacPaint	99.	Olduvai Software	
Broderbund Print Shop	38.	Post-ART (Three Disk Set)	35.
VideoWorks II	119.	Silicon Beach Software SuperPaint	79.
Casadyware		Silicon Press	41.
Fluent Fonts 2.0 (Two-Disk Set)	28.	Solutions International	
Fluent Laser Fonts Vol. 1-15 (ea)	46.	The Curator (Catalog Your Art)	79.
Deneba Software Canvas 1.0		Springboard Certificate Maker	24.
(Includes Desk Accessory)	109.	SuperMac Software Pixel Paint	249.
Dubl-Click Software		Symmetry PictureBase	59.
World Class Fonts! (Both Volumes)	36.	T/Maker	
WatPaint (Both Volumes)	36.	Click Art Letters I, Letters II, Personal	
Enzan-Hoshigumi USA		Graphics, Publications, Effects,	
MacCalligraphy 2.0	115.	Business Image, or Holidays (each)	28.
Japanese Clip Art Scroll 1		Christian Images	35.
"Heaven" or Scroll 2 "Earth"	59.	Click Art Laser Fonts: Plymouth,	
Japanese Clip Art "Borders" Scroll	69.	Bombay, or Seville (each)	45.
Foundation Publishing		Unison World Chest Top Publishing	35.
Comic Strip Factory	45.	Zedcor DeskPaint 1.0	42.

CAD Products

Apple Computer MacDraw	159.	Professional 3D	239.
Challenger Software		Innovative Data Design	
Mac 3D (Enhanced Version 2.0)	125.	MacDraft 1.2A	155.
Crickit Software Cricket Draw	175.	Silicon Beach Software Super 3D	159.
Enabling Technologies Easy 3D	79.	Super 3D Enhanced (Mac II)	249.

Educational/Creative Software

Baron's Baron's SAT	35.	Hayden MusicWorks	29.
Bogas Productions Studio Session	52.	Score Improvement System for the SAT	58.
Broderbund Jam Session	30.	Learning Company Reader Rabbit	34.
Geometry, Calculus or Physics	63.	Micro: Maps MacAtlas Paint Version	
Davidson & Associates Speed Reader II	39.	(MacPaint Format)	32.
Math Blaster or Word Attack!	27.	MacAtlas Professional	
Electronic Arts		(PICT/MacDraw Version)	129.
Deluxe Music Construction Set V2.0	62.	Mindscape Perfect Score SAT	
1st Byte/Electronic Arts		w/The Perfect College	46.
Kid Talk, Speller Bee,		Nordic Software	
First Shapes, or Math Talk	32.	MacKids Educational Programs (each)	29.
MathTalk Fractions, First Letters &		Rubicon Publishing	
Words, or Smoothtalker	32.	Dinner at Eight-Silver Palate Bundle	51.
Great Wave Software		Simon & Schuster Typing Tutor IV	35.
KidsTime, TimeMasters		Speed Reading Tutor IV	32.
or NumberMaze	27.	Springboard	
Concertware+ 4.0	39.	Early Games for Young Children	
Concertware+ MIDI 4.0	79.	or Easy as ABC	28.

Game Software

Accolade Hard Ball	23.	Plundered Hearts, Stationfall,	
Activision Hacker II, Shanghai,		The Lurking Horror, Trinity,	
Star League Baseball or		or Zork I (each)	24.
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Artworx Bridge 5.0	22.	Hitchhiker's Guide to The Galaxy	18.
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Broderbund Ancient Art of War	27.	Microsoft Flight Simulator 1.0	32.
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Electronic Arts Ogre	20.	Crossword Magic	32.
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EPYX Winter Games		King's Quest I, II, or III (each)	30.
or Sub Battle Simulator	24.	Leisure Suit Larry	24.
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Infinity Software, LTD.		Enchanted Scepters	21.
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World Cup Soccer	27.	World Builder	41.
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Infocom		Star Trek (The Kobayashi Adventure)	24.
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of Phobos, Moon Mist, Nord & Bert,		XOR Software NFL Challenge	65.



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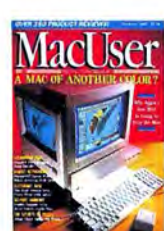
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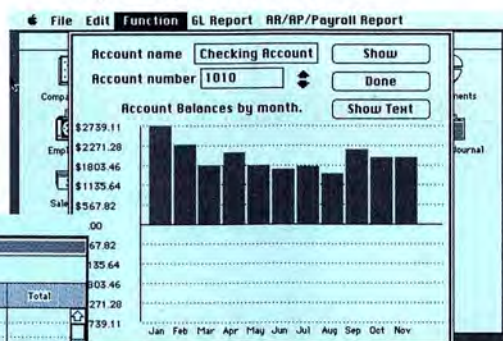
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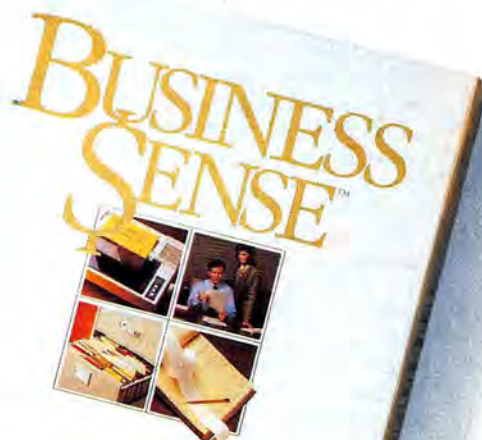
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*Business Software Magazine Accounting Survey, July, 1987

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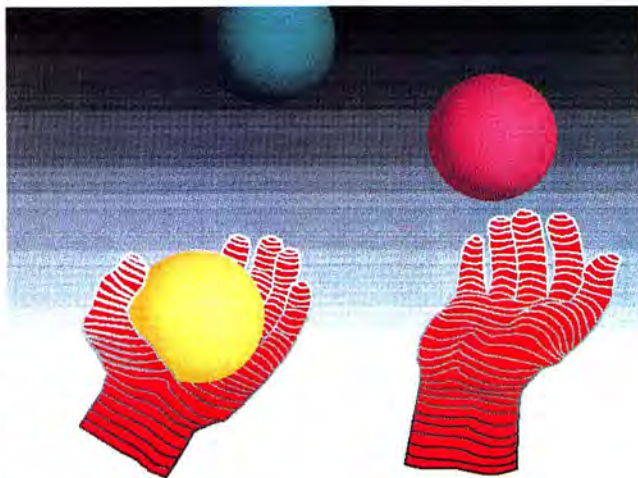
Modern Art

James Whistler created a masterpiece with his *Arrangement in Gray and Black* (better known as *Whistler's Mother*). But modern artists who need the full spectrum can boot up *Modern Artist*, one of the first Mac II color painting programs to hit the streets.

Modern Artist includes color versions of all the familiar *MacPaint* building blocks (like Lines, Arcs, Brushes, Pens, Text, and filled and outlined geometric shapes) and tools (like the Paint Bucket, constraining tools, Fat-Bits and Lasso and Marquee selection). In addition, the \$199 program includes color special effects, like automatic fountain shading between two colors, and regional tinting and staining (globally substituting one color for another in a specified region). Simple three-dimensional effects can be used to automatically shade blocks and spheres based on a movable illumination source. Black and white *MacPaint* files can be imported for colorization (Ted Turner, take note).

Colors can be selected from among 5.5 million possibilities by using an intuitive color wheel to get the right hue, tint and intensity or by specifying numerical combinations of red, green and blue. Depending on your hardware, you'll be able to use 4 to 256 colors simultaneously. Dithering options let you create the illusion of additional colors. And a Wet Canvas option lets you mix and smear colors together.

Modern Artist is published by Computer Friends, which is also developing a program for generating PostScript output for color separations. For more information, contact Computer Friends at 14250 NW Science Park Drive, Portland, OR 97229, or call them at (503) 626-2291. — JZ



New and Improved

After all the carrying on that accompanied Apple's original announcement, their spin-off software company, Claris, has kept a low profile. Rumors of what they've been up to in the interim have ranged from trivial to the unbelievable. Claris recently put a stop to most of the rumors by a public announcement of their new product line.

And it is a new product line

even though some of the names are familiar. For starters, two venerable Macintosh programs — *MacWrite* and *MacPaint* — have been significantly changed. We'll be reviewing the new Claris products over the next few issues, so I'll just hit a few high spots to give you some idea what to expect.

MacWrite 5.0 doesn't have as many sexy new bells and whistles as *MacPaint* 2.0, but it's still impressive. The most noticeable changes are the addition of a 100,000-word spelling checker (which can be used interactively or after you've finished typing)

and more command-key equivalents. You'll be able to set up your own "learned words" dictionary, too. And there's a Select All feature and a zoom box. The program should be shipping by the time you read this. Price at press time was set at \$125; upgrade, \$25.

MacPaint 2.0, ah, *MacPaint* 2.0. You're gonna love this one. Ninety percent of the code was rewritten for the new version and it shows. There's no color support, but I don't think you'll miss it. You can have up to 9 windows open simultaneously (if you have the memory). There are multiple Zoom levels, and you can edit at any level; you can also draw and change an object's position in the Reduced mode. Both the Patterns and Tool menus are tearaways.

And then there's the magic eraser, which is something like a limited "smart bomb" for graphics. When you open a document in *MacPaint* 2.0, the program takes a snapshot of it. Say you've messed around with it for a while and would like to go back to square one. Holding down the Option key while using the eraser makes the eraser "twinkle." When you use it in this mode, it erases down the original graphic — ought to do wonders if you're into cutaway drawings.

As if this weren't enough, Claris also announced substantially improved upgrades of *MacProject* and *MacDraw*, and two entirely new products: *SmartForm Designer* and *SmartForm Manager*. These are two interrelated applications for producing just about any kind of form, including — if you've the patience to input it — a 1040 that does your tax calculations for you. The *SmartForms* duo is initially aimed at people who design forms professionally. However, the program will also find a niche with people like me who use idiosyncratic forms to keep track of things. Eventually, Claris foresees the day when the majority of forms

within a corporation or government department are handled completely electronically, from the production of the form itself to the end user.

All in all, I would have to say that Claris has made an impressive start. While their perceived connection to Apple may still cause them some image problems, it can also help. A company spokesman claimed that Claris is to be "completely independent" of Apple by early 1988. It was not stipulated whether that was to be a physical (financial) or meta-physical (corporate philosophy) independence. However, they do seem to have rejected at least one element of Apple corporate policy: Claris claims that it will fully support not only the users of its own products and upgrades but also users of older versions of such programs as *MacWrite* and *MacPaint*. — LK

The Story That Isn't Yet

Vaporware is a problem for software publishers and users, and it also affects magazines at times. In this case, *MacUser*; and at this time. We planned to bring you our first MacUser Labs report in this issue. In fact, we talked about it and promised it. And

we're not delivering it this month.

As we reached (and passed) our deadline, it became obvious that more facts, equipment and software than we had on hand were needed. We've acquired all the new hardware and software, but there isn't time to run the fi-

nal tests (which we consider very important), check them, write the final report and still get you this issue.

We apologize for the delay. When you do see the report, though, we think you'll agree it was worth the wait. — SB

We Got a Wrong Number


The phone number we printed on page 120 of our December '87 issue for Heizer Software's Stack Exchange was wrong. The correct number is (415) 943-7667.



RUMOR MANAGER

 Electronic mail systems (e-mail), the beating hearts of all networks, are changing rapidly, and for the better. Microsoft is revising and improving *InterMail*, which they recently acquired. You may not recognize the program when they're done, which should be around April. And two new contenders promise real-time email power beyond your wildest dreams. At least one, and maybe both, should be on display at Macworld Expo (this one, the one in San Francisco).

 Mice are also changing. Mouse operation and feel is becoming big time. Look for a hardware device that reads not only movement and clicks, but also relative button pressure. Did you say gray scale? Variable tints? Andy Hertzfeld is supposedly doing the software, so expect some real innovation and fireworks. The other mouse enhancement is pure software. Called inertial mouse control, it's perfect for applications that require joystick-like control. It's already available on *Crystal Quest*, the fantastic new game from Greene Software and can be added (by developers, unfortunately; not end users) to almost any program.

 It's that time of the year again, time to report on what

we've heard and what's leaked of Apple's 1988 plans. First, in a break with their "tradition" of announcing major products early in the year, Apple will announce two new Mac line computers much later in the year, most probably at one of the two competing major Mac shows in August.

One of the new machines will be the Super Mac II. That's not the real name, but you can be REAL sure, in spite of rumors elsewhere, that it will not be called the Macintosh III. There will never be another Apple product with a III in its name. One of the recent code names for this machine was Jennifer. If you've heard of a Mac with a female name, it was probably this machine. Here are the details (so far): 68030 CPU, 68882 math coprocessor and 68851 PMMU all standard; 8 megs of RAM; 151-meg internal hard disk; 4 (yes, 4) slots and NuBus. The big news is that pricing will be below current Mac II levels. Prototypes are already being shown to developers and selected large national accounts. Seedings to developers are expected to begin in about 45 days.

The other machine to be announced is the long-awaited laptop Mac. And although it'll be announced and shown, deliveries


are not expected to begin until early 1989. Price is not yet set, but unless the specs are radically changed (again), expect to pay around \$3000 list.

And, in addition to the laser printers just announced, expect two more very cheap (we're talking ImageWriter II prices) laser printers with very limited capabilities and feature sets. They'll be slow and not desktop publishing capable, but handy to have around the house just the same. These printers, and the two non-laser printers that are also on the way, will have the new infrared links built in.

Apple's own scanner will finally show up, along with an absolutely first class, high-speed modem (at least 9600 baud and possibly the new Hayes V series in a platinum package). Other hardware releases will include cable eliminators, improved AppleTalk devices (with the necessary software drivers), and several sizes, flavors and varieties of hard disks, both with and without associated analog and digital tape backup devices. And, of course, lots of memory, all in the form of 1-megabyte SIMMs.

The software side is still up in the air as Claris becomes more and more independent. Apple will

stick to System software and *HyperCard* in 1988, the *Fallon* advanced telecommunications product having been killed yet again (it seems permanent this time). Claris controls leaks much better than Apple (so far), so information on their plans has been harder to come by. Still, we are pretty sure you can expect a desktop publishing package, a power word processor and either an email or dedicated communication product from them.

 *MathView* and *Eureka* are going to get some serious competition later this year. The new math program is very fast, and supports color on the Mac II and the new math boards.

 Have you heard any good rumors recently? Can you share them? Does your legal department agree? Will you share them anyway? If we use your rumor we'll send you a token of our appreciation and promise not to use your name. Anonymous contributions also accepted. Contact the Rumor Manager by snail mail care of *MacUser*, Suite 250, 110 Marsh Drive, Foster City, CA 94404, or, better yet, electronically. Right now we can be reached on MCI Mail (MacUser), CompuServe (72257,2671) and AppleLink (X0259).

Apple Laughs, Honest

I think highly of honesty, integrity and other journalistic virtues. This being the case, I must say frankly that the first few times I

heard John Sculley speak publicly I was less than impressed — *much* less. (I have been known to make this point more colorfully.) So it is with some chagrin that I now reverse my position.

I recently heard Sculley address the Seattle Downtown Business Users Group (dbug) cogently, thoughtfully and humorously. If you know me, you know I have high standards for wit and humor and Sculley more than met my cri-

teria in the "Corporate Speakers" category. He even handled questions with aplomb.

And to top it off, he showed a videotape — made by Apple, a company not particularly noted for its tongue-in-cheek attitude — that was a hoot. It's a montage-like production intended to address the question of where Apple will be in 10 years. I hope it's accurate. I particularly like the segment with a woman leaning

against a counter with her morning coffee. Her Mac is announcing that it has just checked hundreds of data bases and international news services and "has found 3 items that might interest you."

I can hear the sceptics among you muttering, "Maybe he just got better writers." Well, maybe he did; but he did full justice to the lines. Mr. Sculley, I congratulate you. (Please check the pronunciation of "Descartes.") — *LK*

UPDATES

Programs, like wine, often improve with age. To get the most out of your programs, you should be using the most recent versions. Here's a list of the current version numbers (as of press time) of many popular programs. The version number of a program can usually be found by running the program and checking the About... item at the top of the Apple menu.

Apple System software is spe-

cial. Generally, and unless you have a 128K Mac, you should be running the latest System software. (128K owners should continue to use *System 2.0* and *Finder 4.1*.) The latest Apple *System* software is available free from most user groups, national on-line services and local BBSs. The deluxe version (four disks, boxed and documented) can be purchased through Apple dealers for

\$49.95, not a bad deal considering what's included: *Finder 6.0*, *System 4.2* and the long-awaited *MultiFinder 1.0*. As information on *MultiFinder* compatibility becomes available, we'll keep you informed.

All Programs listed here are HFS compatible. The meanings of the codes in the right column are as follows: CP or NCP, copy protected or not; //, programs we

have found to be Mac II compatible (not yet a comprehensive list); and S, shareware (try before you buy software).

Compatibility is sometimes in the mind of the beholder. Programs listed as Mac II compatible may not perform 100% of the functions they offer on other Macs, nor do they necessarily take full advantage of all of the power of the Mac II.

A.A.I.S. Prolog	M1.15	NCP	Fontographer	2.3	CP	MacPaint	2.0	NCP	Project Billing	3.0	NCP//
Acta	2.0	NCP//	Forecast	2.0	NCP//	MacPalette	1.0	CP	QUED/M	2.04	NCP
AMS General Ledger	2.08	NCP	Frame Mac	1.1	NCP//	MacPascal	2.1	CP	Rags to Riches	3.0	CP//
AppleShare	1.1	NCP	FreeTerm	2.0	NCP//	MacProject	1.1	NCP	Ragtime	1.1	CP//
Aztec C	1.06H.1	NCP	FullPaint	1.0	NCP	MacProof	2.0	NCP	Ready, Set, Go!	4.0	NCP//
Back to Basics	1.03	NCP	Gato	1.42	CP	MacSafe	1.03	CP	Record Holder	2.1	NCP
Balance of Power	1.03	CP	Glue	1.04	NCP	MacServe	2.3	CP//	REdit	1.2	NCP
Bulk Mailer	3.0	NCP//	GraphicWorks	1.1	NCP	MacSpec	1.3	CP	Red Ryder	10.3	NCP
Business Filevision	1.1	NCP	Hard Disk 20	1.1	NCP	MacSpin	1.1	CP	Reflex Plus	1.0	NCP
CalendarMaker	3.0	NCP,S	Hard Disk Utility	2.0	NCP	MacSpool	2.1	NCP	ResEdit	1.1b7	NCP//
Chooser	3.2	NCP	HD Backup	1.0	NCP//	MacTerminal	2.2	NCP	Sargon III	1.0	CP
ClickArt Effects	1.01	NCP//	HD SC Setup	1.5	NCP//	MacTools (MFS/HFS)	7.0	NCP	Scoop	1.01	NCP//
Clipper	1.01	NCP	HFS Backup	2.01	NCP	MacWrite	5.0	NCP	SideKick	2.0	NCP
ColorChart	1.3	NCP	HFS Locator Plus	2.0	NCP	Mac Zap	5.0	NCP//	Silicon Press	1.1	NCP
Colorizer	1.1	NCP//	Illustrator	1.0	CP/NCP	MailManager	1.0	CP	Slide Show Magician	1.3	CP
ColorMate	2.1	NCP		//	MapMaker	2.0	NCP	Smartcom II	2.28	NCP//	
ColorPrint	2.03	NCP	ImageWriter	2.6	NCP	MDS	2.0	NCP	SoundCap	4.4	CP
Comic Book Factory	1.6	NCP//	ImageWriter, AppleTalk	2.6	NCP	Measure Test	12.7	CP,S//	Space Edit	2.0	CP//
Comic Works	1.0	NCP//	InBox	2.0	NCP	Megamax C	3.0	NCP	SpellNow	1.0	NCP
ConcertWare +	4.0	NCP//	Insight GL	1.0	NCP//	MicroPhone	1.1	NCP//	Spellswell	2.0	NCP
ConcertWare + MIDI	4.0	NCP//	inTalk	3.0	CP	Micro Planner Plus	5.8b	NCP	StatView 512+	1.1	NCP
Copy II Mac	7.0	NCP	Jazz	1A	CP	MindWrite	1.1	NCP, //	StatWorks	1.2	NCP//
Copy II HD	7.0	NCP	JustText	1.1	NCP	miniWriter	1.39	NCP,S	Stella	1.3	CP//
Cricket Draw	1.1	NCP//	Laser Author	1.3	NCP//	MockPackage +	4.3.4	NCP,S	Straight Talk	2.08	NCP//
Cricket Graph	1.2	NCP	Laser Prep	5.0	NCP	MORE	1.1C	NCP//	Studio Session	1.4	CP
Deluxe Music Construction Set	2.0	CP	LaserShare	1.0	NCP	MPW	2.0b	NCP	SuperPaint	1.00	NCP//
DesignScope	1.14	NCP//	LaserSpeed	1.5	NCP//	MS BASIC	3.0	NCP	Switcher	5.1	NCP
Disk Express	1.10	NCP	LaserStatus	2.0	NCP	MS BASIC Compiler	3.0	NCP	System (MFS-128K)	2.0	NCP
Disk First Aid	1.01	NCP	LaserWriter	5.0	NCP	MS Chart	1.0	CP	System (HFS)	4.2	NCP
DiskInfo	1.45	NCP,S	Layout	1.3	NCP,S	MS Excel	1.04	NCP//	Telescope Pro VT 100	1.3	NCP
Disk Ranger	3.1	NCP	Legal Billing	1.72	NCP, //	MS File	1.05	CP	Tempo	1.2	NCP
DiskTop	3.0	NCP	Legal Billing II	2.39	NCP, //	MS Fortran	2.2	CP	ThinkTank 512	1.3	NCP
Dollars & Sense	1.4	NCP//	Lightspeed C	2.01	NCP	MS Word	3.01	NCP	Thunder!	1.01	NCP
Easy3D	1.01	NCP	Lightspeed Pascal	1.0	NCP	MS Works	1.0	NCP	Thunderscan	4.0	NCP
Edit	2.1	NCP	Lode Runner	1.0	CP	MS Write	1.0	NCP//	TML Pascal	2.01	NCP
Excel	1.06	NCP//	Mac-3D	2.0	CP	Multiplan	1.1	NCP//	TMON	2.8	NCP
ExperCommon Lisp	2.2	NCP	MacASM	1.2	NCP	MusicWorks	1.1	CP	Top Desk	2.3	CP
ExperLisp	1.5	NCP//	MacBillboard	4.01	NCP,S	myDiskLabeler	2.11	NCP	TOPS	2.0	NCP//
ExperLogo	1.1	NCP	Mac C	5.0	NCP//	Neon	2.0	NCP	Turbo Maccountant	2.0	NCP//
EZ Draft	2.0	NCP//	MacCalc	1.2	NCP	Omnis III Plus	3.26	CP//	Turbo Pascal	1.0E	NCP//
Filemaker Plus	2.0	NCP//	Mac Disk Catalog II	2.1.1	NCP	OverVUE	2.1	NCP//	VersaTerm	3.0	NCP
Finder (MFS-128K)	4.1	NCP	MacDraw	1.9.5	NCP	Packit III	1.3	NCP,S	VersaTerm Pro	2.0	NCP
Finder (HFS)	6.0	NCP	MacDraft	1.2b	NCP	PageMaker	2.0a	NCP	VideoWorks II	1.1	NCP, //
FlashBack	1.6	NCP	MacFlow	1.02	NCP	Parameter Manager	1.092	NCP	VIP	2.2	NCP
Flight Simulator	1.0	CP	MacGolf	2.0	CP	Performer	2.2	CP	Widgets	3.0	NCP
Fokker Triplane	1.0	CP	MacInTalk	1.1	NCP	PictureBase	1.2	NCP	WriteNow	1.0	NCP//
FONtastic	2.8	NCP	MacLabeler	2.2	CP	Plains and Simple	4.1	NCP//	XPress	1.05	CP/NCP
FONtastic Plus	1.4	NCP, //	MacMoney	2.02	NCP	PowerStation	1.1	NCP	ZBasic	4.0	NCP
Font/DA Mover	3.6	NCP	MacMovies	1.02	NCP	Professional Composer	2.1	CP			
			MacNosy V2	2.8	NCP	Profit Stalker II	1.3	NCP			

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- Inequality solutions
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Minimum system requirements:
Macintosh with 512K RAM, 128K ROM minimum.
One 800K disk drive.

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BORLAND

Color On the Cheap

A host of new third-party color monitors for the Mac II may make Apple green with envy. Competition from major league monitor companies could cause the price of color displays to take a downturn.

Apple's price, at press time, for its 13-inch color monitor was \$999 without a color graphics board. Sony has just introduced the second in its line of multisync monitors for the Mac II at \$825. Multisync monitors work at different frequencies so they work equally well with an IBM or a Macintosh, though I can't see why anyone would want to deal with anything but the latter.

Mitsubishi's offerings range from a small 14-inch tube that costs \$928 to a whopping 37-inch at \$7653. Both monitors display at Apple's standard 640 X 480 resolution, but they also accept TTL and NTSC television signals. The 37-inch monitor makes impressive desktop presentations and has become a regular at numerous trade shows, including Apple's own booth at Comdex.

Crossing over from the IBM world is Monitorm with its 19-inch Viking 10 color monitor and controller card. The Viking displays at an impressive 1024 X 768 pixels and costs \$4795.

For dealer information, contact Sony at 9 West 57th St., New York, NY 10019; (212) 418-9427; Mitsubishi at 991 Knox St., Torrance, CA 90502; (213) 515-3993; Monitorm at 5740 Green Circle Dr., Minnetonka, MN 55343; (612) 933-5701. — BT



Getting It On Your Chest

Publishing from the desktop has now extended itself to the body with *Chest-Top Publishing*, a package that creates iron-on pictures for T-shirts. The package comes with ready-made *MacPaint* graphics and special "UnderWare" heat-transfer printer ribbons. You just print the graphics on an ImageWriter and then iron it on a T-shirt or other article of clothing.

You can color the picture by using the supplied Crayola fabric crayons or by using different colored ribbons. Some of the pictures that come with the program have a separate file for each color used in the graphic. You just pass the graphic through the printer as many times as you have different colored ribbons.

Depending on how complex the picture is you can print anywhere from 50 to 150 T-shirts with a ribbon. *Chest-Top Publishing* is available for \$59.95 from Unison World, 2150 Shattuck Ave., Suite 902, Berkeley, CA 94704; (415) 848-6270. — BT

II Is a Lucky Number

Revised versions of two old Apple standbys, *MacDraw* and *MacProject*, were recently announced by Claris, the Apple software spin-off. They're called *MacDraw II* and *MacProject II*, and while the names are the same, the programs are totally different from the earlier versions.

MacDraw II is a real stunner, the shining star of the Claris line. *MacDraw* was no slouch, but it was frustrating, slow and often unwieldy. Kiss that all goodbye. It seems as though every wish list the programmers could find was acted on.

The first thing you notice is the speed. Blinding is an adequate adjective. Drawings just appear, instead of showing up slowly, object by object. A full-color (yeah, another new feature) document consisting of nearly 1900 objects just snaps onto the screen. Scrolling and moving about occurs as fast as I've ever seen on a Mac screen.

The resolution and precision of the program has been markedly increased. You can now work to an accuracy of 1/32nd of a pixel. That precision (and the color support and other added features) means that the old standard PICT format can't be used anymore. However, you can still save your work in PICT format and also read PICT documents.

Other wish list items included are greater view and layering abilities (up to nine of each), super scaling and positioning features, a choice of arrowheads (you can edit in your own, if necessary), the best text rotation yet (you can edit rotated text in place — just select it and edit it!), a driver for up to E size plotters, a new 400-page manual featuring a five-part tutorial, and up to 16,000 patterns and colors at once.

There's more: Text is handled properly (only one text mode) and you can have different sizes and styles within any text block. Font handling is still not perfect, but is much improved and should cause no problems. Each document can now have its own font menu (and the fonts you see on screen are not based on their position on that menu). Not only can you decide

what fonts go on the menu, but you can also put particular sizes in particular styles at the bottom of the menu.

Also add fast zooming (up to 32 times), automatic smoothing, some really intelligent aligning and gridding options and you merely start to get the feel of this real powerhouse program. But that's only part of what's been added. The list goes on and on. We'll have a full review just as soon as we get a release copy.

What's missing? Not much. Particularly noticeable, however, is the lack of PostScript support. This is still a QuickDraw program. That's good if you have an ImageWriter LQ or II, where you can print some of the glorious color.

MacDraw II should be available as you read this at a list price of \$395. If you don't already use *MacDraw*, it's worth it. Current owners will be able to upgrade for \$100 — a great bargain.

The changes in *MacProject* are less dramatic, but equally important. The original *MacProject* was a low-price, low-performance program. Its price was its main virtue. The new *MacProject II* adds large amounts of planning power, more realistic use of resources (its no longer all or nothing), and graphics ability without sacrificing the original's intuitiveness and ease of use. I wouldn't have believed it possible if I didn't see it. If anything, *MacProject II* is easier to use than *MacProject*.

The program automatically implements industry-standard colors for things like critical paths. Users can set the colors, although they can turn the color off. Also new to this version is the ability to set and use subprojects within a main project. These can be easily created or located using the improved search function.

The package will include two *HyperCard*-based training disks, one for new users and one for advanced users. *MacProject II* is *AppleShare* and *MultiFinder* compatible and works with all Macs from the 512KE on up. It should be out as you read this.

MacProject II will list for \$495, a moderate price for a program of this power. Current *MacProject* owners will be able to upgrade for \$145. As soon as it ships, the original *MacProject* will be dropped. We expect to use *MacProject II* in the *MacUser* office for our scheduling and planning. — SB



Mitsubishi multisync color monitors for the Mac II.

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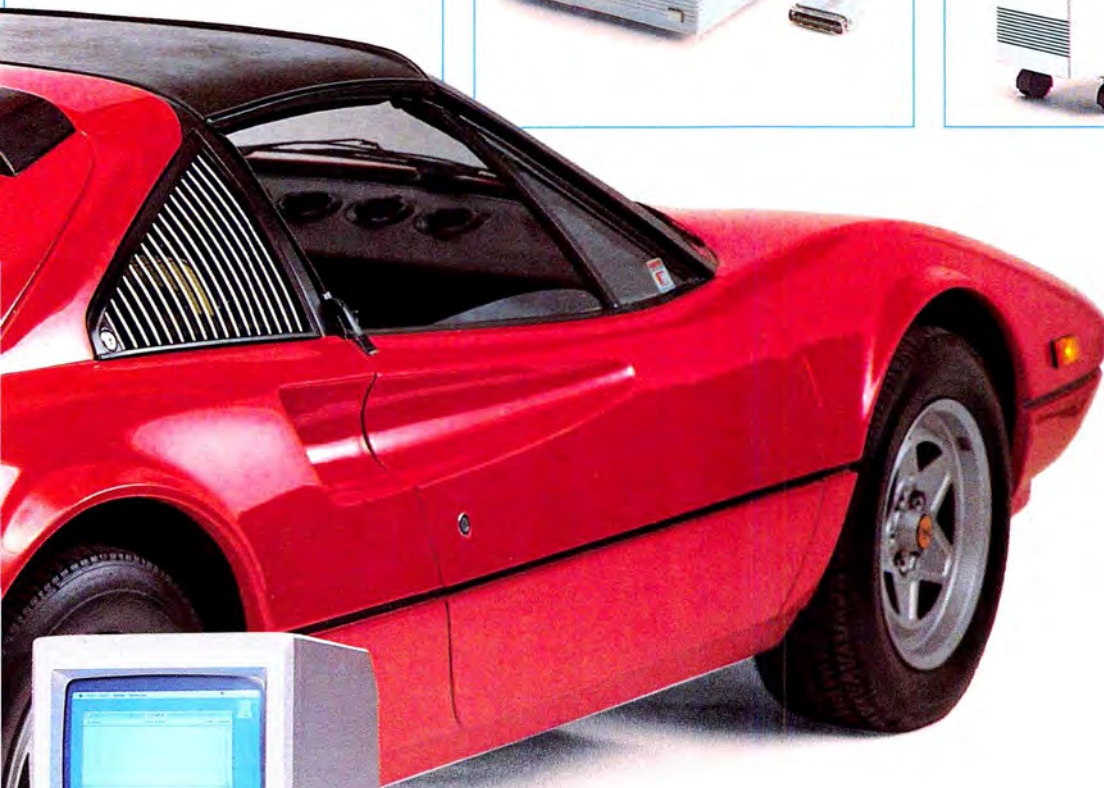
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MISS NG PIEC S

This month's chart from Robert ART Morgan's *Missing Pieces* newsletter looks at desktop publishing programs. From time to

time, we'll be printing updates to previous charts, too. If you'd like to subscribe to the newsletter, the price is \$1 an issue; \$12 annually.

Write to Ramifications Unlimited, PO Box 619, Dept. MU, Julian, CA 92036. Let us know what charts you'd like to see and we'll pass

your responses on to Robert. *MacUser's* new address is 110 Marsh Dr., Suite 250, Foster City, CA 94404. — LK

Update on DTP Programs—What's Missing?

? = feature partially exists or awkwardly implemented.

✓ = missing feature.

	Full ¹ Write	Page Maker 2.0a	Ready SetGo 4.0	Quark ² XPress 1.1	Target Scoop 1.0	Laser ¹ Paint 1.1
On-line Help			✓		✓	✓
Multiple Files Open		✓				✓
Read <i>Word</i> 3.0 Doc's						✓
Read <i>WriteNow</i> Doc's	✓				✓	✓
Hand Scroll	✓		✓	✓	✓	
Hide &/or Move Palettes	N/A		✓	✓		
Click Zoom	✓		✓			✓
Max Zoom In	100%	200%	200%	200%	800%	800%
Max Zoom Out	100%	FitScreen	FitScreen	FitScreen	12.5%	6.25%
Ruler in inches						✓
Ruler in decimal inches	✓		✓	✓	✓	✓
Ruler in centimeters						✓
Ruler in picas/points						✓
Movable Zero Point	✓				?	✓
Interactive Facing Pages	✓			?		
Move items across Facing Pages	✓			✓		
Story Naming	✓	✓	✓	✓		✓
Auto "Continued on..."	✓	✓			✓	✓
Auto "Re-Drop"	N/A	✓				✓
Auto Hyphenation						✓
Find/Replace		✓			✓	✓
Find/Replace Font/Style		✓			✓	✓
Spell Checker		✓				✓
Auto Index		✓	✓	✓	✓	✓
Glossary	✓	✓		✓	✓	✓
Maximum Font Size	127	127	255	500	127	511
Case Change ³	U,L	U	✓	U	U,L,T	✓
Text Size "Bumping"	✓		✓		✓	✓
Text Stretch or Scale	✓	✓	✓			
Text Rotate 90°	✓	✓	✓	✓		
Text Rotate 1° Increments	✓	✓	✓	✓		
Text Wraps Irregular Graphic		✓				
Text Wraps Square Graphic		✓				
Text Fills Object	✓	✓	✓	✓		
Color Text	✓	✓	✓			
On-screen Color	✓	?	?		✓	✓
Rotate Objects by 1°	✓	✓	✓	✓		
Skew, Perspective, Distort	✓	✓	✓	✓		
Paint Tools	✓	✓	✓	✓		
Duplicate Object	✓	✓				✓
Select Multiple Objects	✓			✓		
Align Objects/Boxes	✓	✓		✓		✓
Lock Object	✓	✓				
Guide Lines	✓		✓			✓
Color Object	✓	✓	✓	✓		
Color Background	✓	✓	✓			
Fill Patterns				✓		
Arrowheads	✓	✓	✓		✓	✓
Export Text as TEXT				✓	✓	✓
Export Text as <i>Word</i> 3.0	✓		✓	✓	✓	✓
View as Thumbnails	✓	✓	✓	✓		✓
Print Thumbnails	✓		✓		✓	✓
Print Color Separations	✓	✓	✓			
Print Registration Marks	✓	✓				
Print Cut Marks	✓	✓	✓	✓	✓	
Print Fold Marks	✓	✓	✓	✓	✓	
Print Reverse Order			✓			✓
Collate Copies			✓			✓
Retains Resolution of PICT	✓		✓	✓	✓	

¹ Fullwrite and LaserPaint were included because they boasted of DTP features.

² Quark will soon release version 1.1 that supports TIFF, WriteNow, Works, Gray Scaling, and Find/Change Style.

³ U = lower to UPPER; L = UPPER to lower; T = Title Text.

Band-Aids for DTP Programs

1. Use *Windows* 1.1 DA to add Windows menu item to *Ready, Set, Go!*
2. Use *Stepping Out* to improve scrolling capability of *Ready, Set, Go!* and *XPress*. It also adds another 15 levels of Zoom-In to any of the above programs!!! ... as well as split screen Zoom-Out.
3. Use *The Clipper* DA to improve PICT reduction quality in *Full-Write*, *Ready, Set, Go!* and *XPress*.
4. Use *Thunder!* or *Mentor Spell Check* DAs to add spell checking to *PageMaker* and *LaserPaint*.
5. Use *MacSink* or *Clipboard Edit* (both Public Domain DAs) to add case changing feature to *Ready, Set, Go!*, *XPress* and *LaserPaint*.
6. Use *Art Roundup* DA to Clip or Lasso, Rotate, Flip or even modify art pieces out of *MacPaint* files. This is a more efficient use of memory compared to Placing entire pages of *MacPaint* and Cropping.
7. Use *Scribbler* 1.0 to create text in PICT format that can be distorted after Pasting into *PageMaker*, *Ready, Set, Go!* and *XPress*.
8. Use *MockWrite* or some other DA text processor to export text from *XPress*, *Scoop* or *LaserPaint*. Sequence is Select All in story, Copy to Clipboard, Open MockWrite Window, Paste Clipboard contents in New File, Save. This process goes quicker if you "tile" the Windows on screen.
9. For extra wide lines in *PageMaker*, *Ready, Set, Go!* and *Scoop*, use the Rectangle Tool and fill with Black or pattern.
10. Create your own border designs in *Scoop* and *LaserPaint* by using all the Paint and Drawing tools.
11. For text headlines larger than 127 point in *Scoop*, convert text to graphic, then stretch.
12. Use *SuperRuler* DA (Public Domain) to improve, on *LaserPaint*'s useless ruler or as a movable ruler in all of these programs.

Apollo Shines On the Mac

Networking has taken a big step with *uShare*, a file server that allows the Macintosh to talk to Apollo computers. Apollo makes high-end workstations used for CAD/CAM applications in government and engineering. *uShare* is AppleShare compatible and lets the Mac emulate an Apollo workstation to run UNIX. This means the Mac will be able to access the sophisticated multi-user data bases that run on Apollo computers.

Other *uShare* applications include an electronic mail system, disk server and print spooler — all of which serve both Macs and IBM PCs. With an Apollo as the network server, the Mac has a transparent gateway to the DEC and IBM worlds.

At press time, the communication between the Mac and Apollo

was one-sided — the Mac could emulate the Apollo, but not vice versa. The developer says that should be fixed by the ship date in the first quarter of 1988. When Apple's version of UNIX, *A/UX*, ships, the ability to have the machines talk to one another should make *uShare* very popular in the engineering and scientific communities.

uShare costs \$1195 for the host software and you add \$395 for each application (mail, spooler, disk server, emulator). An optional Office Automation System (all the software you'll ever need) is \$2995. This, of course, does not include any Apollo computers, which go for about \$10,000 each. *uShare* was developed by Information Presentation Technologies, PO Box 8609, Calabasas, CA 91302. (818) 347-7791. — BT

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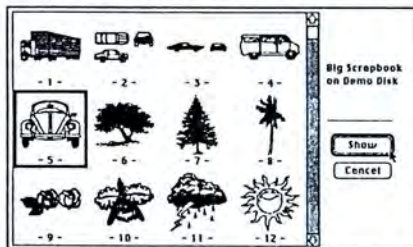
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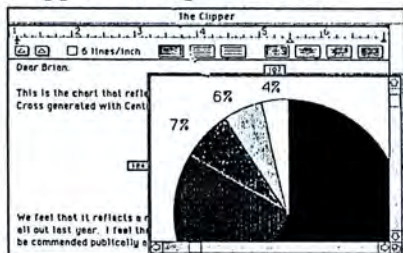
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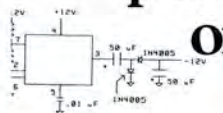
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Hot Colors, Cold Cash

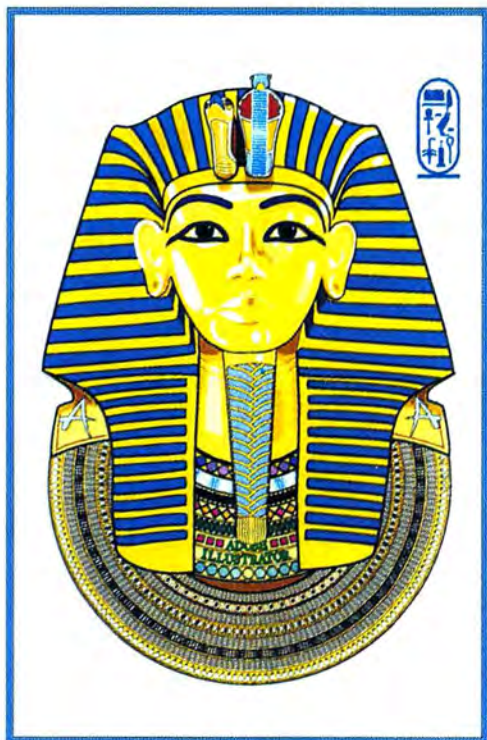
Desktop publishing in *color* is now realistic with typeset-quality color thermal printers from QMS and Lightspeed. A special heat transfer process reproduces seven basic hues at 300 dots per inch. But colorization comes at a premium — 20 grand minimum.

The common denominator in each machine is the Mitsubishi G650 print engine. The Mitsubishi technology uses a color wax transfer process in which heat literally fuses the ink to the paper. A separate pass is made on the page for each color used — the choices being red, green, blue, yellow, cyan, magenta and black. A wider variety of colors can be simulated by dithering (alternating) each pixel.

QMS' working name for its printer is the ColorScript. It understands PostScript so it will be compatible with most desktop publishing packages. It also works on the AppleTalk network. The planned release is in the first quarter of 1988.

Lightspeed's version of the color printer is only an option in its Color Layout System, a color desktop publishing package that comes complete with Mac II, hires monitor and software. The printer costs an additional \$10,000 over the \$17,000 basic package.

QMS can be reached at 1 Magnum Pass, Mobile, AL 36618; (205) 633-4300. Lightspeed's address is 47 Farnsworth St., Boston, MA 02210; (617) 338-2173. — BT



POSTSCRIPT

Software Technology from Adobe

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An example of Color PostScript from the QMS ColorScript thermal printer.

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DIALOG BOX OF THE MONTH

"It may not be as spectacular as some you've run, but I think this dialog box is downright poignant, and all the smoldering frustration, utter impotence and silent resignation with which one comes to accept an irredeemable crash seems to be summed up in the sheer banality of the button you must click on."

We agree, and we couldn't have

put it better ourselves. The program was *FullPaint* and this dialog and description was submitted by Father John-Julian, OJN of the Order of Julian of Norwich, which is in Norwich, CT. A \$25 check has been sent to Father John-Julian.

If you, too, would like a brief moment in the *MacUser* spotlight, send us your most interesting and unusual dialog boxes. If we pub-

lish your submission, we'll send you a check for \$25. We may also ask you to send us a *MacPaint* format file (the kind you get when you press COMMAND-SHIFT-3) of the screen, so take a screen shot and hang on to it. Send your best to Dialog Herb, c/o *MacUser*, 110 Marsh Drive, Suite 250, Foster City, CA 94404. No calls please. — H. D. Plant



**An error occurred while writing
the file 'Experiment 02'. Please
check the FullPaint manual.**

Disk is Full Error

So it is...

No Mac
Is an Is-
land

When you read *MacUser* at work, do you have to hide it beneath the covers of an IBM manual to avoid the scorn of your PC-based cohorts? Do people scoff at you and your mouse, convinced that anything that entertaining can't really count as work? But when it's time to laser print those graphics, are you suddenly everybody's buddy?

Being the lone Mac in a sea of PCs can be an isolated existence — especially when you need to share files or peripherals. *QuickShare* is the latest PC-to-Mac file transfer and conversion utility aimed at bridging the two cultures.

What sets it apart from the competition (including *TOPS* and *MacLink*) are its lightning-fast SCSI speed and its ability to convert IBM graphics into *MacPaint* files in addition to the usual text and data. (Alas, conversion is one-

TWO WAYS TO MAKE WORKS

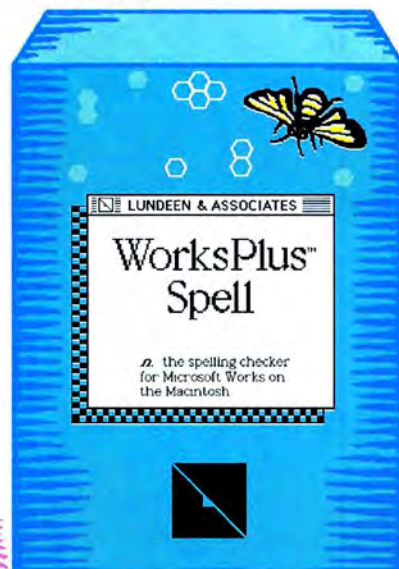
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way, since there's no standard IBM standard format for graphics.)

QuickShare includes two disks (one for your IBM, one for your Mac), a half-slot card to give your PC a SCSI port, a cable and a manual. After creating a "virtual hard disk" on the PC it's linked to, the Mac controls all file storage, transfer and conversion between the machines. For more information on *QuickShare*, write to Compatible Systems, PO Drawer 17220, Boulder, CO 80308; or call (303) 444-9532. Be prepared to part with \$465. — JZ

The Terabytes Are Coming! The Terabytes Are Coming!

...warned a poster in the Kodak booth at Comdex. (Actually, they only said it once; I just had to read it twice.) A terabyte, for the informationally illiterate, is a thousand gigabytes (and each gigabyte is a thousand megabytes). Storing a terabyte of data on disks would require a stack of floppies about 2 miles high, and would cost about \$1 million. Backing up a terabyte of data on floppies would take

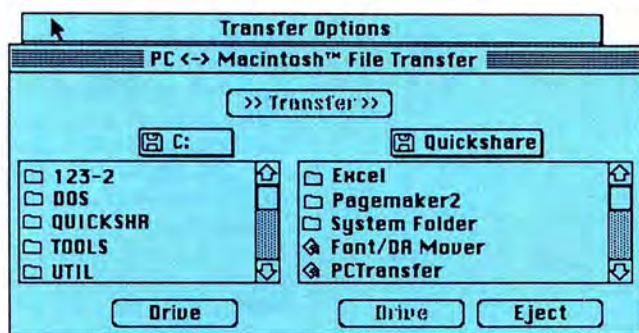
about 2 years. Fortunately, there's an alternative: optical data storage. Optical disks can store oodles of info in a much smaller space, for less money and with speedier copying times. Optical media is also more stable than magnetic media (like tape cartridges and hard disks), so it has a longer shelf life. Several demo drives for the Mac were on display at Comdex last November: Optotech, Panasonic, Adic and U.S. Design all expected to be shipping optical drives for the Mac by the time you read this.

You might need optical storage sooner than you think. Remember when you thought you'd never possibly want more than a 20-megabyte hard drive? That was fine when your documents rarely exceeded 100K. But *HyperCard* stacks, halftone graphics, dictionaries and complex page layouts are just some of the ways to easily fill an 800K floppy with a single document. If your applications use digital sound (which needs about

1 megabyte per minute) or video (which eats up several megabytes per second), gigabyte memory requirements won't seem that far-fetched.

All of the above-mentioned drives are Write Once Read Many (WORM) devices. Erasable optical technology has been elusive, but Kodak expects to be shipping erasable optical media and drives sometime this year. With so much memory available, however, the ability to recycle memory isn't always important, especially for archiving and data retrieval.

Optical media comes in several different formats. Just like their floppy counterparts, 5¼-inch disks have been widely used, but 3½-inch cartridges (about twice as thick as a floppy) are growing in popularity. And Olympus Optical is developing drives for 2.5-megabyte "disks" the size and shape of a credit card, so there may be some truth to the predictions that optical storage is "just around the corner." — JZ



QuickShare accomplishes PC-to-Mac conversions at top speed — including graphics.

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It zips through your finished documents five times faster than any other spelling checker—at about two pages per second. Or if you prefer to check each word as you type, *WorksPlus Spell* will do it without slowing you down.

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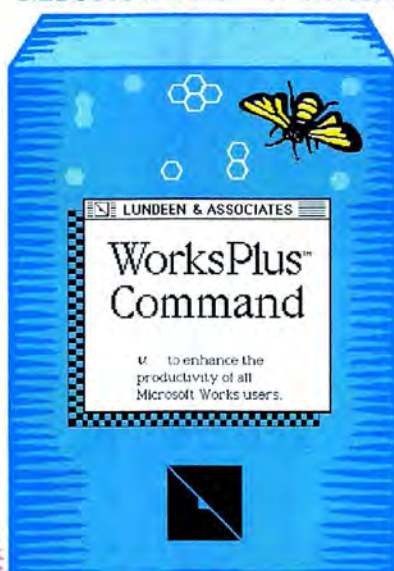
Spell even has a glossary for frequently used phrases, and an automatic hyphenation feature.

All this is combined in a package that's exceptionally easy to use and fully-integrated with *Works*. And that puts time on your side.

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Put an end to tedious, repetitious typing with *WorksPlus Command*.

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You can even print multicolumn labels from a database.

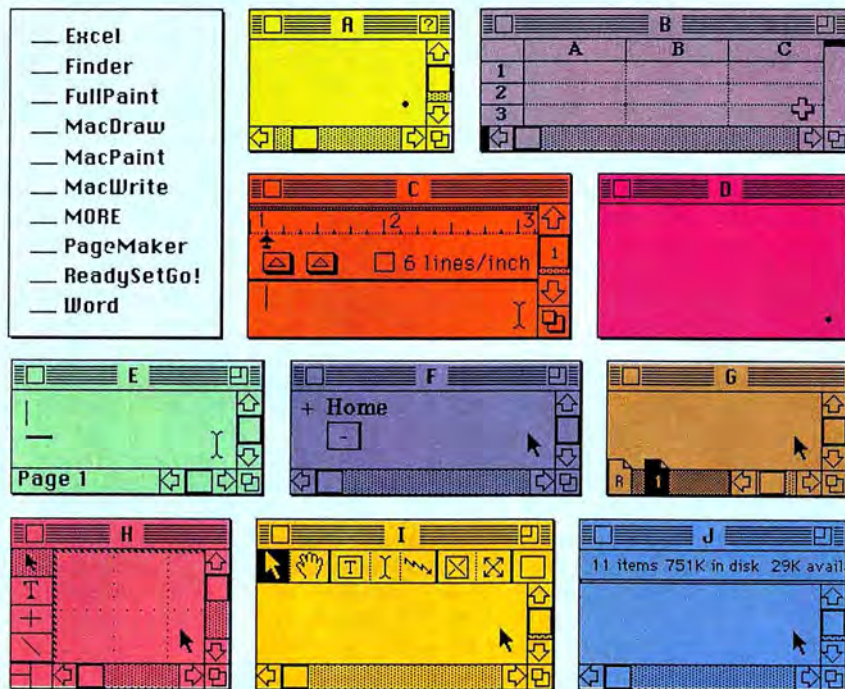
Command can also be used to create your own personal commands simply by recording keystrokes or mouse clicks. Plus there's a full programming language so you can further extend and customize *Works*.

And since *Command* adds menu items directly to the *Works* program, it becomes part of it, working as the perfect software partner.

Lundeen & Associates
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Do You Do Windows?

by Michael Waitsman; color by Chris Mulligan



You might think that if you've seen one window, you've seen

them all. Wrong. Just try to match these windows with their pro-

grams. Answers in next month's New on the Menu.

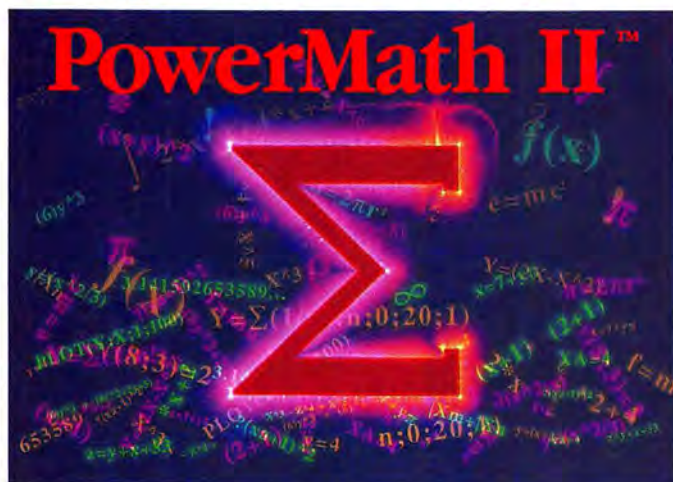
The Dungeon Goes Legit

Following the current trend of popular shareware going commercial, the venerable classic *Dungeon of Doom* (the latest — and last — version is 4.0, see *MacUser*, Jan '87) has been reincarnated commercially as *The Dungeon Revealed*.

Although gameplay remains pretty much the same, the game has been redesigned and enhanced with some 20 digitized sounds (my favorite is the hero's "oh-oh" whenever a potion wears off or a sleeping monster awakens). Other changes include hidden vaults loaded with goodies, gatekeepers that keep you from going down the stairs, a new weapon, a new ring and a new look for zambits and necromancers.

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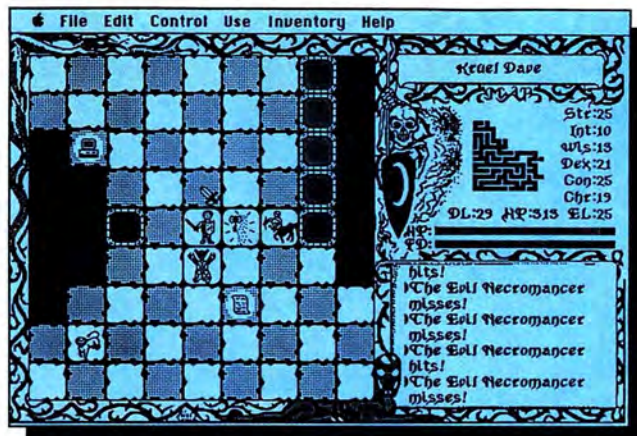
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The commercial version of *Dungeon of Doom* has a larger population of bad guys and goodies than the original shareware edition.

moving the playing window around. And the game, for all its sophisticated sounds and action, still runs on a plain 512K (running *System* 3.2 only).

Even more exciting — for some — is the fact that the source code for the entire program is also available. Written in Lightning C, *Dungeon Revealed* can be used as an object lesson on how to program a fast-action, complicated game. The source code sells for \$45 and is only available to regis-

tered owners of the game.

There is also a 13-page hint book (\$3.25), which players with a low tolerance for repeated dying might want to order. Most of the hints apply to the shareware version, too.

The Dungeon Revealed is sold by Woodrose Editions, Box 2537, Madison, WI 53701; (608) 836-9387. Cost is \$37.50. Registered owners of the shareware version can upgrade for \$17. — *Dave Valiulis*

BUG OF THE MONTH

There's a bug in *Excel* that can be very dangerous to your Mac's *System*. In fact, it can destroy it! This bug exists in every version of *Excel* up to version 1.04 (the highest numbered version we have). We don't know if it exists in versions 1.05 or 1.06.

Before attempting to recreate this bug (if you really have to see it), make a backup of your *System* file. Then follow these steps:

1. Launch *Excel*.
2. Choose **SAVE AS** from the File menu.
3. Type in **SYSTEM**.
4. Rename the current folder to which the file will get written "System folder" (or whatever the name is of the folder you have put your *System* into).

Excel will now put a blank spreadsheet on the screen.

5. Quit *Excel*. A system error will occur on your return to the desktop.

6. Try to restart the Mac. You can't because your *System* file

has been zapped and replaced by an *Excel* document.

7. Restore your *System* from the backup.

Most applications will trap you if you try to do this. Another program that almost does this is *FullPaint*. It won't write over your *System*, but it will replace your *System* file's icon with the icon that represents a *FullPaint* document.

Dylan Ashe of Torrance, CA found this bug. He says he likes to experiment with programs to see just how good they are. We've sent him our standard reward of \$25. If we select and publish your bug we'll pay you \$25, too. Send your bugs, well-wrapped, to Bugsy, c/o *MacUser*, 110 Marsh Drive, Suite 250, Foster City, CA 94404. Be sure to include all the version numbers of the application and your *System* software and tell us if you have any unusual DAs or other programs installed, so we can recreate your bug. — *H. D. Plant*

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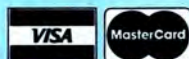


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Bad Art for Bad Art's Sake

Power corrupts, and "The power to be your best" is absolutely no exception. An easy-to-use desktop publishing package comes with no guarantee that the results will be aesthetically attractive; it can just as easily create glorified ugliness. Page layout programs can only amplify the user's sense of taste (or lack thereof). And, as with all computing, garbage in yields garbage out.

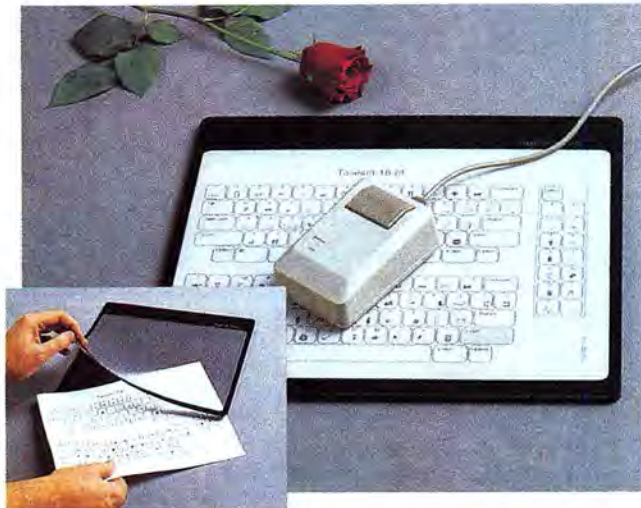
If a picture is worth a thousand words, a bad picture (or layout) is worth — and just might prompt — a thousand bad words. A San Francisco graphic arts firm, Design Access, is sponsoring a "bad art" contest to give some long-overdue recognition to the best (that is, the worst) of these desktop-published monuments to bad taste. Prizes (such as a copy of *Illustrator* and a free graphic "makeover" of the offending art-

work) will be awarded either to the person who submits the art or to its creator, whichever the judges deem to be more in need of help.

Awards will be made for Worst Layout, Worst Use of Color, Worst Use of Fonts, Worst Use of Clip Art, Most Confusing Document and Most Graphic Elements in a Single Design. Winners (that is, losers) will also be immortalized in the Design Access Hall of Shame.

Any artwork or text produced partially or completely using electronic publishing technology is eligible. At press time, the sponsor reports that early entries have been mostly merely mediocre, rather than the sought-after exemplars of the truly bad. Entries should be submitted to Design Access, 900 North Point, San Francisco, CA 94109 by April 1, 1988 to be eligible.

You can also call (415) 885-3156 for information about the new Design Access Network, an on-line service for desktop artists, offering 24-hour access to fonts, clip art, shareware, technical support, electronic mail and overnight Linotronic 300 typesetting. — JZ



Mouse Spoiler

It's not often that we get excited about a mouse pad, but one in particular from Speed Pad has the whole *MacUser* office covetous. The Image II Speed Pad comes with a "hinged" clear plastic surface under which you can slide any standard letter-size page that

you may want to have around for reference. (I have an editorial schedule in mine.) In addition to making efficient use of dead space, it's a very good mouse pad. The Image II sells for \$19.95. For more information on Speed Pad's entire line of mouse pads, write to them at Speed Pad, 46 North Geneva Rd., Dept. SP, Orem, UT 84057. You can also call their toll-free order number: (800) 321-1600; or in Utah, (800) 662-8666. — LK

MacMoney 3.0

See us at Macworld Expo: Booth 539.

A NEW WAY TO MAKE MONEY WORK FOR YOU

We set the standard with our award winning program, **MacMoney 2.0**, the versatile, powerful and intuitive accounting package developed specifically for your personal and small business use.

Our users have written hundreds of letters with one outstanding theme: they love **MacMoney** and want more—more features, choices, versatility—more of the same. So we built all of these new features and MORE into **MacMoney 3.0**:

- Optional automatic printing of memo lines and addresses on checks.

- Special report showing a running balance.
- Many user defined preference selections, including check register sort sequence.
- All lists increased to a maximum of 250 items.
- User controlled deleting and voiding.
- Reconciliation of credit cards as well as bank accounts.
- Flexible reporting and graphing.
- Exporting capabilities to Excel™, Word™, Helix™, MacInTax™ and others.
- Excellent user support.
- Much, much more.

What have our reviewers and users said?



"By far the easiest and most powerful program of its kind." **MacUser**, January, 1987.

"A sophisticated personal-finance program that's easy to use." **Matthew Stern, Family Computing**, June 1987.

We also kept the features that made **MacMoney** an award winner:

- Ease of use—as friendly as your Macintosh™.
- No copy protection.
- Financial planning tools.

"It's probably been my single most useful software purchase." **Stephen Fleming**, North Carolina.

"Its most outstanding feature is that it works the way the real world works." A fan.

"I love **MacMoney**." **Charles James Jr.**, Texas.

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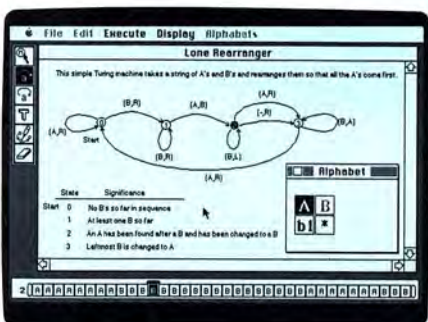
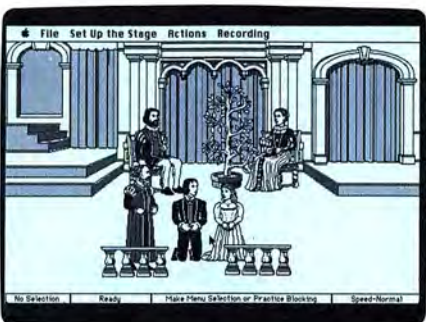
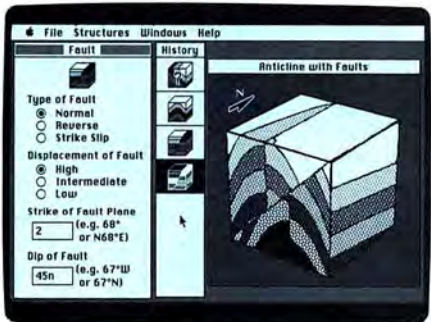
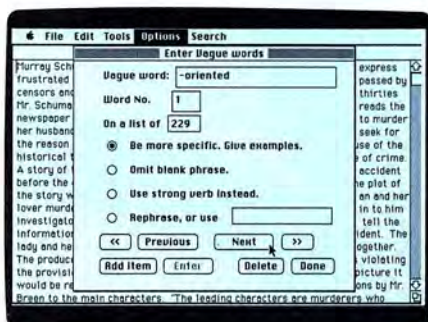
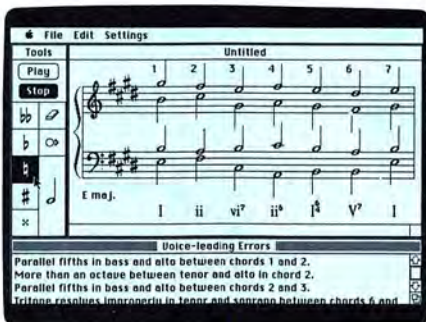
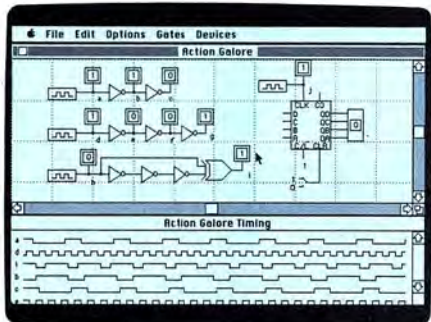
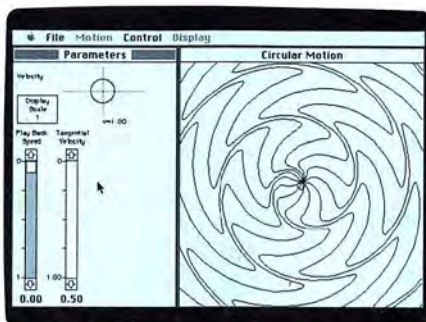
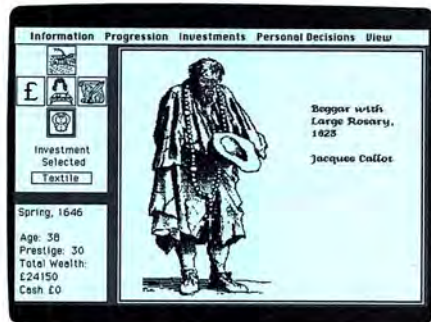
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Inglewood, CA 90304
(213) 410-9527

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California residents must add 6.5% sales tax.

Hardware: 512 K Macintosh; Macintosh XL, Macintosh Plus, SE and II; Printer (recommended), ImageWriter, ImageWriter II, LaserWriter, LaserWriter Plus (or equivalents); 800K disk drive recommended for 512K machines. MacMoney is a trademark of Survivor Software Ltd.; Macintosh is a trademark licensed to Apple Computer, Inc. Other trademarks used for reference only.

Please circle 147 on reader service card.

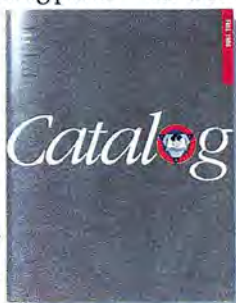


Now teachers don't have to go strictly by the book.

For years, textbooks (and an occasional guest lecturer) were all that the faculty needed to implement their teaching plans.

But now that the computer age has reached college age, an entirely new course has opened up for professors: The Academic Courseware Exchange, which has been developed by Kinko's Copies.

It's a way for faculty members to incorporate educational software for the Macintosh™ and Apple II personal computers into their classrooms. At a cost to students that's comparable to textbook prices, from \$8 to \$40.



Academic Courseware Exchange software has been developed by faculty members for faculty members—to help them teach their chosen subject better. Be it history, chemistry, business, electrical engineering or hotel management. And each program is tested in real classrooms before it's ever offered to the faculty.

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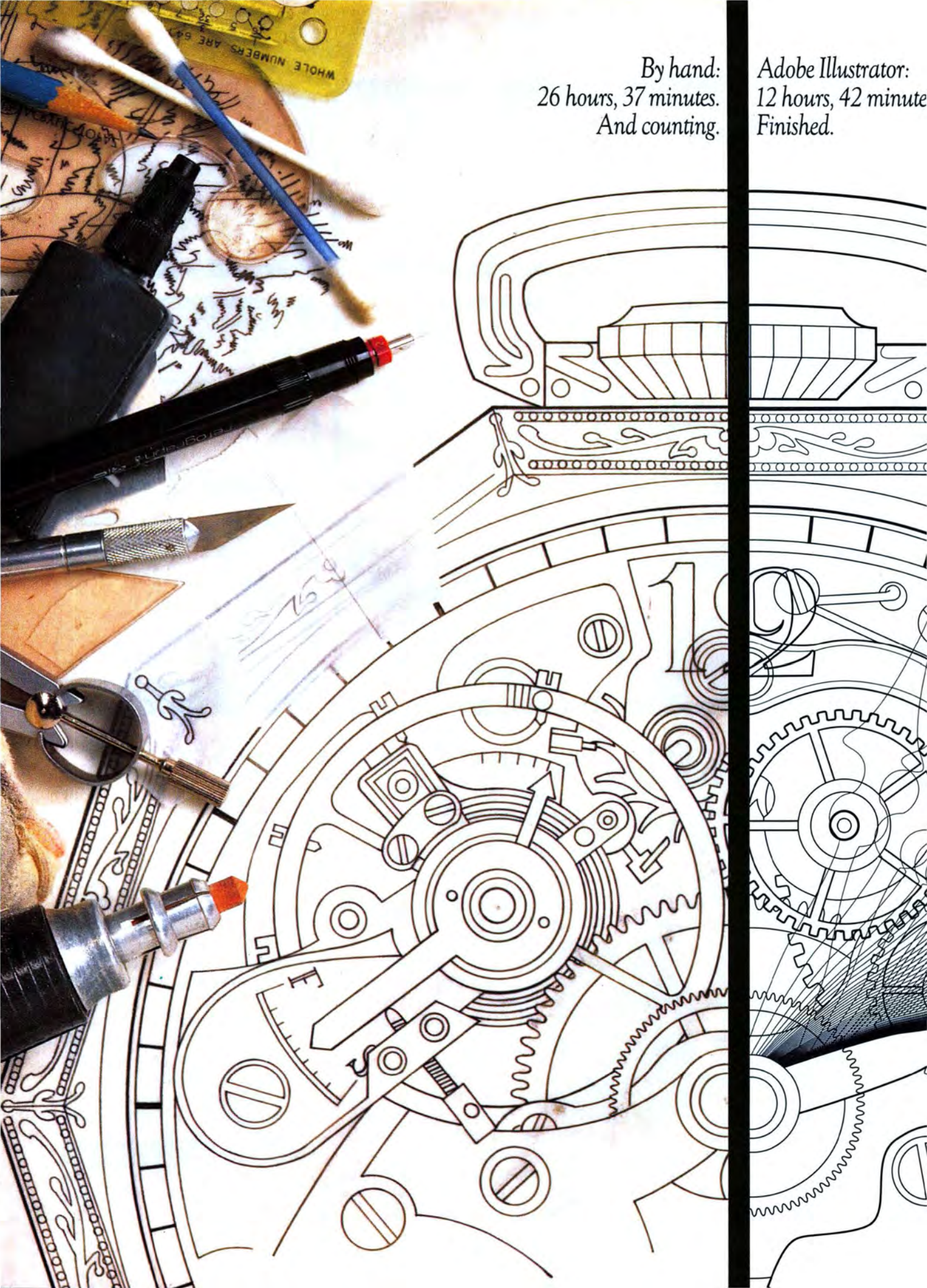
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The art of Adobe Illustrator.

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On both sides, the artist started with a rough sketch which he traced over. (Adobe Illustrator allows you to trace over other kinds of existing art, as well.)

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The Adobe Illustrator side is not only finished, it's cleaner, sharper, and includes details—like the strobe effect on the minute hand and maddeningly precise little circles on the rim—that simply can't be duplicated by hand.

To get these effects with Adobe Illustrator, you simply draw, step, and repeat the desired shape in whatever position or angle or size you like.

For example, the artist drew a single gear, then resized it and put it in different places. And Adobe Illustrator held the desired line weight regardless of image size.

You can also rotate, add type, combine one image with another, share images with other users, or even incorporate images into the most popular page layout programs.

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Illustrator

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ADOBE
SYSTEMS INCORPORATED

You'll notice the side done by hand is unfinished and not nearly as crisp as the Adobe Illustrator side. That wasn't done on purpose. Both sides were done by the same talented artist, Jeffery West of Jeffery West Design, who, until recently taking up Adobe Illustrator, made his living with pen-and-ink.

Please circle 286 on reader service card.

There are two major threats to the life of every Macintosh™ and Macintosh Plus. And one minor annoyance. The threats? Heat and power impurities. The annoyance? Not enough outlets and too many switches. The solution? System Saver Mac.

System Saver Mac keeps your Macintosh cool. The high operating temperature inside your Macintosh can damage its circuitry and shorten its lifespan. System Saver Mac's quiet fan draws fresh air in through the ventilation slots on the sides of the Mac, across the circuit board, over the power supply (the primary source of heat), and out the ventilation slots hidden under your Mac's handle at the rate of 17 cubic feet per minute. It keeps your Mac running cooler, longer.

System Saver Mac keeps your Macintosh calm. 70-90% of all computer malfunctions can be traced to impurities in the electrical current. Power surges and spikes can do costly damage to your Mac's delicate circuitry. Power line noise can interfere with its operations and cause annoying system errors. System Saver Mac clips those dangerous surges and spikes at

Cool, calm, collected... System Saver Mac.

a safe level and filters out line noise. It provides pure power to make your Mac more accurate, efficient and reliable.

System Saver Mac keeps your Macintosh collected.

In the course of solving those two major threats, System Saver Mac also solves that minor annoyance. It provides outlets for two peripherals (like your ImageWriter® and modem), while replacing the Mac's power cord. And it comes with the option of one or two switches to control your system's power.

Use two if you want to power one of your peripherals (like a Hard Disk 20) separately. Use one if you'd rather have the convenience of a single switch to control everything.

Compatible with Mac and Mac Plus, System Saver Mac is available in Apple Beige (model #62300) and Apple Platinum (model #62302) at a suggested retail price of \$99.95. For more information, or a dealer near you, call (800) 535-4242. In NY, or outside the U.S., call (212) 475-5200. Or, write to Kensington, 251 Park Avenue South, New York, NY 10010.

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by Robert R. Wiggins

The Envelope Please

This is the issue everyone has been waiting for, the Editors' Choice awards (the Eddies), where the editors of *MacUser* pick the best and brightest of the products released during the preceding year. The Eddies by necessity cover a wide range of products, and while I did participate in the selection process, I felt that there were some categories covering business-oriented products, as well as some more unusual categories, that weren't included. So without further ado, I present a tradition since 1988, the Pinstripe Pick Awards (the Pinnies).

Business Product of the Year: 4th Dimension. This year brought forth a multitude of business products for the Macintosh, so this is a tough call, but I have to pick *4th Dimension* from Acius. Not only is it a powerful, yet easy to use data base manager, but it is also a flexible development environment. As a data base alone, it would deserve praise, but its application development capabilities make it a primary vehicle for companies and third-party developers to create custom business applications. The impact of *4th Dimension* will be felt as companies are finally able to build their own custom software and are freed from having to adapt their business to a piece of software.

Best Business Hardware Product: SuperMac Spectrum. The Macintosh II has completely opened up the hardware add-on market for the Macintosh, and this category includes some tough competition: monitors like the Radius TPD, and PCPC II; accelerator cards for the Plus and SE like the Radius Accelerator and the Levco Prodigy; hard disks redux from vendors too numerous to mention. But the award goes to the product that helped capture the hearts and minds of potential Macintosh II buyers as it was featured so prominently in Apple's advertising: the SuperMac Spectrum 19-inch color monitor. While its hefty price tag places it out of reach of most Mac II buyers, its appeal helps them make that purchase decision. The Spectrum is the Ferrari of Mac products: incredibly sexy, but too expensive for the average consumer.

Best Business Communications Product: PhoneNET. The race does not always go to the swiftest, but sometimes to the cheapest: PhoneNET from Farallon. By making AppleTalk networks more affordable as well as easier to implement, PhoneNET made a big mark on business users by saving them money.

Best Business Connectivity Product (Micro): DaynaFile. In a category full of networking schemes, the winner is a product that eliminates the need to actually connect machines in favor of a data sharing approach using floppy disks. But since many of the business users who need to share PC and Mac data can't or won't network, it turns out to be a simple yet elegant solution, letting the Macintosh read and write IBM format disks.

Best Business Connectivity Product (Mainframe): Netway 1000A. MIS directors who pass up a 3724 cluster controller emulator that allows up to 16 Macs connected via AppleTalk to be used as 3278 terminals for less than \$200 each need to have their heads examined. Deals like this just don't come along every day.

Best Business Graphics Product: Illustrator. While it requires some artistic skills, there's just no way to get more out of a LaserWriter than with Adobe's *Illustrator*. For "classic" business graphics (i.e., charts and graphs) the choices are still products like *Excel*, *Trapeze* and *Cricket Graph*. But for that extra zing, *Illustrator* is the ticket.

Best Desktop Presentation Product: PowerPoint. The firstest may not have the mostest, but *Cricket Presents* didn't ship before the awards deadline, leaving *PowerPoint* alone in the field. Not that *PowerPoint* wouldn't have been a contender, considering that it created the category and brought contented smiles to scores of business people who could finally automate and simplify the dreary task of creating presentations. To the business presenter, everything in this category will be a winner.

Best Vertical Market Product: Flowmaster. The Macintosh has not yet attracted the flood of vertical market packages seen on that other computer. This will change as products like *HyperCard* and *4th Dimension* make Macintosh applications easier to produce. But one developer, Daryl L. Scott of Select Micro Systems, saw an opportunity and spent the time learning how to program, producing not one but two vertical market products for the advertising and marketing industry, *MapMaker* in 1986, a demographic analysis program and map drawing program, and *FlowMaster* in

1987, a media flowcharting program for ad agencies.

Best Upgrade: PageMaker 2.0. A wide field of entrants, from *More 1.1* to *Trapeze 2* to *Word 3* to *Ready-Set-Go! 4* to *Red Ryder 10*, all of which were major enhancements over their previous incarnations and well deserving of praise. But the nod has to go to *PageMaker 2.0*, which took what had become a so-so page layout program and vaulted it past its competition to reach preeminence.

Best Product from a Tiny Company: Suitcase. *Suitcase*, the utility that eliminates the need to install fonts and desk accessories in the System file and allows virtually unlimited access to fonts and DAs, is the winner going away. From Software Supply (number of full-time employees: one).

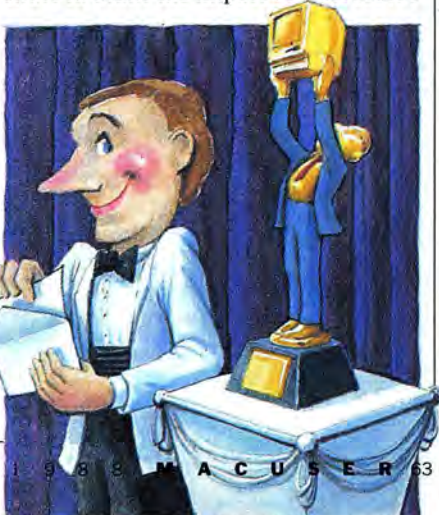
Best Product from a Small Company: QuicKeys. *QuicKeys* is the amazing keyboard enhancer that makes owning the Apple Extended Keyboard a true joy. From CE Software (full-time employees: nine).

Best Product in a Supporting Role: Pyro! The screen-saver written by Bill Steinberg and Steve Brecher that comes with *Suitcase* and *PowerStation* as an extra bonus. Its color fireworks are a marvel to watch.

Best Desk Accessory: DeskPaint. The Disk DAs (*DiskTop* from CE Software and *DiskTools Plus* from Electronic Arts) were in the race and are very useful to have, but a *MacPaint* DA that supports large screens is a marvel when working with programs like *PageMaker*. *DeskPaint* from Zedcor wins by a nose.

Best Advertising Campaign. Sometimes money talks. The winner is Apple. BBD&O does good work for old friend John Sculley.

Worst Advertising Campaign. Ann Arbor Softworks in a walk, for their early *FullWrite Professional* campaign. In an effort to blunt the impact of Microsoft's





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release of *Word 3*, they ran a campaign showing people whispering "Don't buy it" and "Wait for *FullWrite*." While it seemed like a good idea at the time, *Word*'s problems made it look like they were kicking someone when they were down, and, coupled with the delay in *FullWrite*'s release, left some egg on Ann Arbor's face.

Best Fumble Recovery. This category was created especially for Microsoft, whose free upgrade to *Word 3.01* and introduction of *Write* went a long way to improve their image after the debacle of *Word 3.0*. I still don't care for *Word 3*, but Microsoft deserves credit for fixing most of the problems and updating its users at no charge. And *Write* is not a bad little word processor. There's something about having real font and style menus that's comforting.

Best Legal Extortion Scheme. This award goes to Quark for their *Xpress* page layout software that was heavily copy protected, but for an additional \$100 for an "extended support program" you were entitled to free upgrades (and there were several, some required due to the copy protection) and an unprotected version.

Vaporware Product of the Year. In a surprise move, Ashton-Tate released *dBase Mac* a year after announcing it, taking it out of contention for this prestigious award, so the Pinnie goes to Ann Arbor Softworks for *FullWrite Professional*, whose release was delayed so many times that company CEO Phil Lipetz risked literal lat and feathering as part of a bet with *MACazine* editor Bob LeVitus as to the final ship date.

Beyond Vaporware Product of the Year. In a stunning response to Microsoft's release of *Excel* for the IBM PC to go head to head against Lotus 1-2-3, Lotus announced an intention to announce 1-2-3 for the Macintosh.

Best Preannouncement (tie). Both products were from Microsoft, but were preannounced by different entities. First, Tandy preannounced *Excel* for the PC in their catalog, much to Microsoft's chagrin. Then, Microsoft Press preannounced *Excel* version 2.0 for the Macintosh in their 1988 *Computer Desk Reference & Appointment Calendar*.

Best Surprise Announcement. In an industry awash with rumors and beta versions of software circulating, a surprise announcement is almost unheard of. But Microsoft pulled one off with the introduction of *Write*. The announcement caught almost everyone by surprise, especially since the product ship date was one week later. ☑

**What to do
if you
don't know
which
local area
network
to buy.**

Just ask.

Why a network?

First things first.

Chances are, you already think you might be able to use a network or you wouldn't be reading this.

But you may not know exactly what a local area network can do for you.

Typically, a local area network can help a group of people and their personal computers work together by letting them share information, files, software, and peripherals.

The result of that sharing is that the people on the network can do more, better, in less time.

The next question then becomes, which network?

Why TOPS?

Good question. And we have a good answer.

TOPS* is the simplest, most efficient, and most economical network you can buy.

You connect different, incompatible computers, and share files between them as though they spoke the same language.

Because with TOPS, they do.

That makes using the network very straight-forward and easy.

And since TOPS is so uncomplicated, it's economical, too.

How does it work?

TOPS resides in your microcomputer's memory, so regardless of which application you're running TOPS is always there.

And it allows you to connect Macintoshes, IBM PCs, and Sun Workstations* and share files among them.

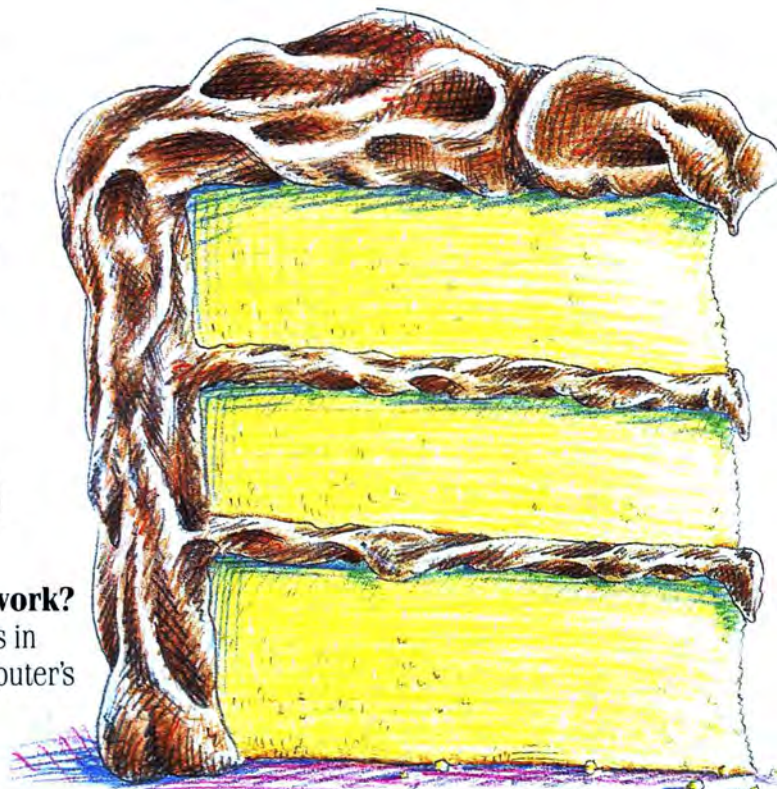
TOPS is a *distributed server network*. So computers share files directly with each other without having to go through a centralized network server where all the files are located.

That's one of the reasons the TOPS Network is so simple, efficient, and cost-effective.

What's the difference between TOPS and other networks?

The basic difference is that, as we mentioned, TOPS is a distributed server network.

Most other networks require a *dedicated server* where all the files reside. And in order to get at your files—or anyone else's, for that matter—you have to request them.



Some people say installing TOPS is a piece of cake. But others disagree. They say it's as easy as pie.

If you have a phone system, the cable for your TOPS Network is already installed.



This is an authoritarian setup where you don't have as much direct control over your information.

It's also more expensive. There's a central file server, special cabling, and more often than not, the services of a skilled network administrator are needed to set up and manage your centralized network.

TOPS is more democratic. Every computer on the TOPS Network is both a network station and a network server. Files move easily from one computer to another, you have complete control over your information, and contention problems are far less likely.

Will we be able to connect different computers?

Different computers or the same



Dedicated networks use a central file server as a middle-man. Which slows down the whole network with contention problems and costs more besides.



TOPS translates files so they can be used by every computer on the network, regardless of its operating system. So all your computers can speak the same language.

computers. TOPS is designed to connect Macintoshes, Sun Workstations, IBM PCs and compatibles in any combination thereof.

So no matter what the operating system—DOS, UNIX, or Macintosh—TOPS lets you share files and applications between all of your computers.

With TOPS, there are no compatibility problems. Because TOPS translates between file systems, you can access files stored on any other computer on the network just as if they were stored locally.

And that means you can choose the computers and peripherals that are best for you. Because they're all partners on TOPS.

How do we share files?

In a word, transparently. Macintosh folders and MS-DOS directories are known to TOPS as volumes.

To make your volumes available to others on the network, you "publish" them.

Any volumes you don't want shared, you simply don't publish. You can also make individual

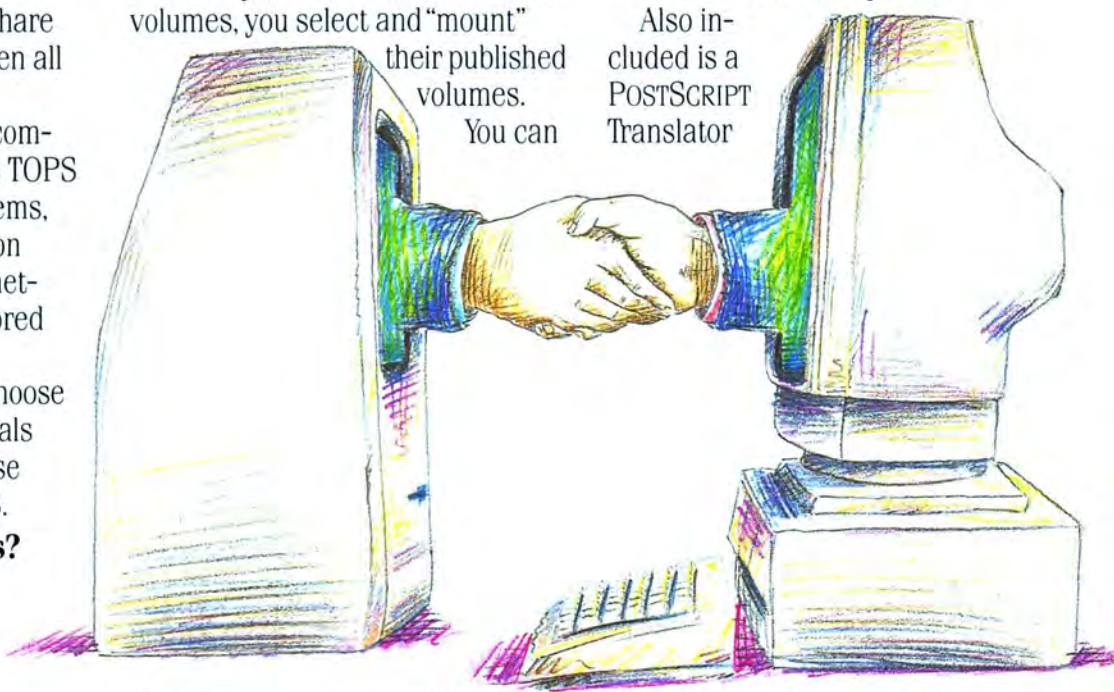
volumes available on a read-only, read-write, one-writer-only, or many-writer basis. And you can assign passwords to certain volumes to further restrict access.

When you want access to others' their published volumes. You can

with an IBM PC wants to use a LaserWriter or networked POSTSCRIPT printer?

No problem. TOPS NetPrint™ software redirects POSTSCRIPT output to a networked laser printer.

Also included is a POSTSCRIPT Translator



TOPS connects Macintoshes, IBM PCs and Sun Workstations, and lets them work together like nothing else.

then print, copy, or edit the remote files as if they were your own. Because on a TOPS Network, for all intents and purposes, they might as well be your own. Different volumes from different computers don't look and feel different at all.

And that's what makes TOPS so simple. And so beautiful.

Can we all share the same printer?

Absolutely.

The same printer, the same disk drives, the same files.

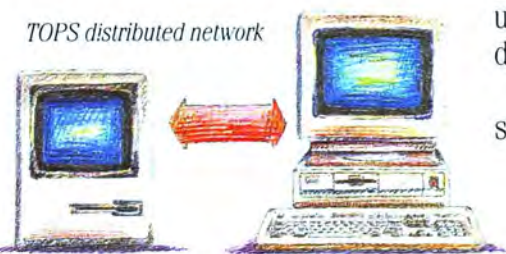
for those applications that don't presently support POSTSCRIPT.

But no matter which computer you're on, you won't have to wait around for the printer to finish printing before you can use your computer again, because TOPS also has a print spooling feature.

The spooler takes the file you want to print and frees your computer so you can go back to work.

And that even goes for large files from applications like PageMaker and Excel.

TOPS distributed network



On the TOPS distributed network, every station is a server. So it's far more efficient and far less expensive.

What kind of cabling will I need?

More good news.

TOPS runs over low-cost, twisted-pair cabling like the TOPS TeleConnect System, AppleTalk, PhoneNet or ordinary phone lines.

So if you're in an office where everyone on the network already shares the same phone system, you'll be happy to know your TOPS cabling is already installed.

In that case, hooking up your computers to the TOPS Network takes all of about 5 minutes.

Provided of course, you don't rush it.

Who's going to install it?

Glad you asked.

Your TOPS dealer can install TOPS for you.

Or you can install it for yourself.

Really, plugging in a new set of stereo speakers is more difficult.

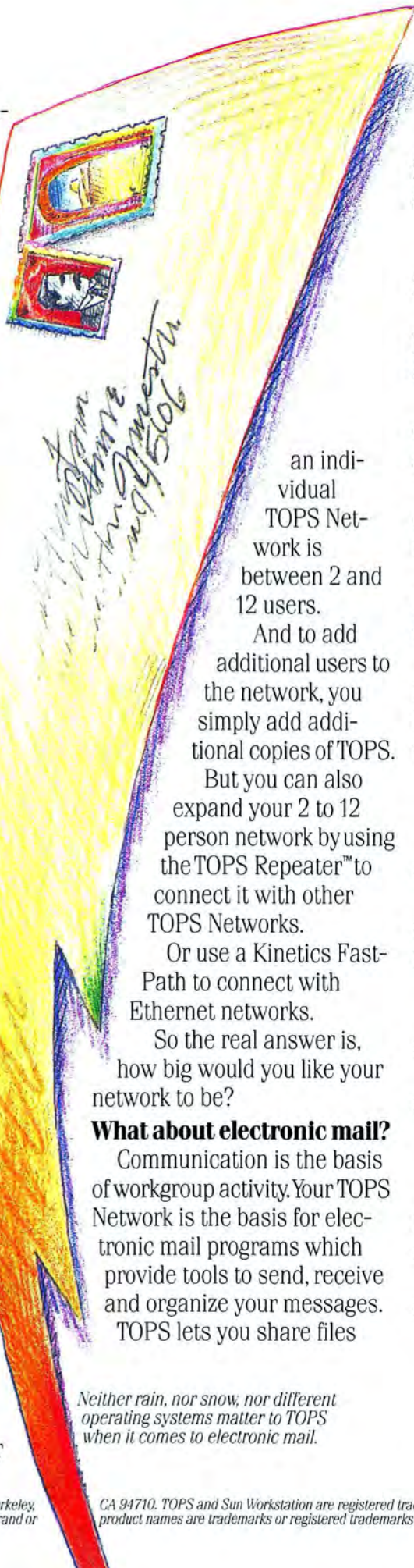
Using the phone lines, you merely plug in a network connector such as TOPS TeleConnector™ (your dealer will see you get the ones you need). One end goes into the back of the computer and the other into the phone's wall outlet.

Worst case, you have to run your twisted pair cables from office to office. That takes time, but once that's done, getting your computers on the network is a snap. Literally.

How big can we make our network?

You can make it as big as you want. Because you can connect up to 65,000 network buses using network bridges such as the Hayes Interbridge.

The typical network group size for



an individual TOPS Network is between 2 and 12 users.

And to add additional users to the network, you simply add additional copies of TOPS.

But you can also expand your 2 to 12 person network by using the TOPS Repeater™ to connect it with other TOPS Networks.

Or use a Kinetics Fast-Path to connect with Ethernet networks.

So the real answer is, how big would you like your network to be?

What about electronic mail?

Communication is the basis of workgroup activity. Your TOPS Network is the basis for electronic mail programs which provide tools to send, receive and organize your messages. TOPS lets you share files

and peripherals, electronic mail lets you share ideas.

Will I need training?

Most TOPS users don't.

And that's not because TOPS is only bought by experienced computer jocks.

Quite the opposite.

It's just that TOPS is that simple to install and run.

Once you've got your computers hooked together, installing TOPS isn't difficult at all.

You load the TOPS disks into your computer the same way you would any other software.

Dialog boxes and menus will come on the screen and walk you through installation.

And when you're done with installation, you'll find that you're very well connected.

There's also a manual that explains in greater detail how TOPS works, but you could use TOPS for years without ever opening the manual.

What's it going to cost?

A lot less than you think.

And certainly a lot less than other networks.

In fact, TOPS is the most cost-effective local area network available, with the lowest cost per station. Starting at \$189.

By comparison, other networks cost up to three times as much.

Which really isn't much of a comparison.

Where can I buy TOPS?

We thought you'd never ask.

Call us at 800-222-TOPS (in California, 800-445-TOPS), for the name of the TOPS dealer nearest you.

Because if you need a network, our network is on TOPS.

No question about it.

TOPS®

A Sun Microsystems Company

Neither rain, nor snow, nor different operating systems matter to TOPS when it comes to electronic mail.



by Frederic E. Davis

Upping the Ante

Aldus recently upped the ante in the desktop publishing world with its announcements of *PageMaker* 3.0, *FreeHand* and *SnapShot*. Although these products were still in prerelease form at press time, they are important enough to warrant a sneak preview.

PageMaker 3.0 is the latest version of Aldus' best-selling *PageMaker* program for the Mac and PC families (it's currently the fourth best selling of all personal computer software programs). Version 3.0 adds major new features such as color, style sheets and automatic text flowing and wrap-around. *FreeHand* is a new PostScript drawing program that makes a frontal attack on Adobe *Illustrator* by offering the same degree of high-level PostScript compatibility in a program that is a lot easier to get acquainted with. And *SnapShot* is a black-and-white digital-photography program that allows you to capture and edit reproduction-quality photographs. Although *SnapShot* currently works only on the IBM PC series, Aldus is working on a Macintosh version that will compete directly with Letraset's excellent — but also still in pre-release at press time — *ImageStudio* program.

PAGEMAKER 3.0

PageMaker 3.0 promises to deliver several previously missing features when it's released (it's scheduled for an early 1988 release at the time I'm writing this). Here's a quick list of the major new features that version 3.0 offers that are not in version 2.0. Two of the most important improvements are the addition of automatic text flow and style sheets. With automatic text-flowing capabilities, *PageMaker* can now place many pages of text at a time, instead of using the old method of manual text flow that required the text to flow one column at a time. Style sheets allow you to predefine text-formatting options for items such as headlines, subheads, body text, captions and other elements of a publication. The *PageMaker* program then automatically interprets these predefined formats when you flow the text onto the page with the PLACE command. Similarly, if you export

text from a *PageMaker* 3.0 document, you can include the formats in the exported document. And since Aldus and Microsoft work fairly closely on software development (they are both located in the Seattle area), *PageMaker*'s style sheets will be compatible with *Word*'s style sheets.



The combination of automatic text flow and style sheets greatly simplifies working with long documents such as books.

The combination of automatic text flow and style sheets greatly simplifies working with long documents such as books. The three computer books I've co-authored were produced with earlier versions of *PageMaker* (1.2 and 2.0), and I know why some of the folks working on the page layout nicknamed the program "*RageMaker*." In the previous versions (1.2 and 2.0), if you made a change on a page that affected the next page (for example, if you made a sentence longer and it got bumped onto the next page), you usually had to redo the entire rest of the chapter by hand. With the new version, you will supposedly be able to export the text back to *Word* (or another word-processing program) with the style sheets and formats intact, make changes in the text, and use the automat-

ic text-flow feature to put the corrected text back into your publication. The style-sheet feature also lets you predefine text formats for data imported from other applications such as spreadsheets, data bases or *HyperCard*.

In addition to automatic text formatting and style sheets, *PageMaker* 3.0 promises to deliver better graphics capabilities in three main areas: color, text-wrap and bit maps. As for color, *PageMaker* 3.0 limits you to the use of spot color for text and graphics. The program allows you to see color images on a Mac II color monitor (although the colors may differ a bit from what will actually be printed) and specify separate overlays for each color (for example, for using a four-color process). The text-wrap feature of *PageMaker* 3.0 allows text to automatically wrap around any graphic. You can adjust the amount of white space (also called stand-off) between the graphic and the text, and the program will retain the text-wrap specifications if you move the graphic. This allows you to rag text around an irregularly shaped figure. For bit maps, *PageMaker* 3.0 will allow you to control lightness, darkness, contrast and density of dot patterns in scanned images and other bit-mapped graphics.

Aldus is also making a variety of other improvements to the program that it promises will appear in the 3.0 version. They will include the ability to specify different measurement units for the horizontal and vertical rulers, create custom templates and adjust *PageMaker*'s automatic leading settings. The addition of all these new features isn't coming for free; the new *PageMaker* will cost \$595, \$100 more than the previous versions. Current owners of *PageMaker* will be able to upgrade to the new version for a fee of \$95.

FREEHAND

FreeHand is a PostScript drawing program that takes dead aim at Adobe's *Illustrator*; in fact, it can even use *Illustrator* files. *FreeHand* was developed for Aldus by Altsys (maker of *Fontographer*) and was in pretty good working order when I saw it. The *FreeHand* program is very impressive and has some significant features lacking in the current version of *Illustrator*, especially in the ease-of-use area. *Illustrator* has earned a reputation of being the hardest Mac program to learn. Unlike most other Macintosh graphics programs, *Illustrator* has no direct correlation between how you move the mouse and the image you are drawing. Instead, you use the mouse to specify points along imaginary lines that cre-

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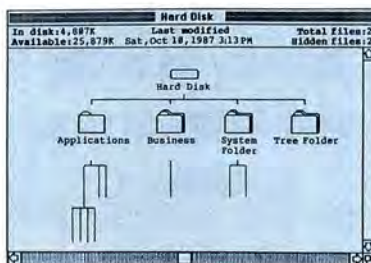
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ate special curves known as Bezier curves. These are used extensively in PostScript. *FreeHand* offers the same ability to work with Bezier curves but features the important addition of a special freehand drawing tool that allows you to draw naturally with the mouse (or other input device such as a graphics tablet or trackball) and have the software automatically fit the Bezier curves to what you draw.

FreeHand is a
PostScript
drawing program that
takes dead aim at
Adobe's *Illustrator*; it
can even use *Illustrator*
files.

FreeHand offers a couple of other things that the current version of *Illustrator* doesn't have, such as the ability to bend a line of text around a curve or other shape, and some special effects like radial fills. *FreeHand* also works with color monitors (if you have a Mac II) and allows you to specify spot color and process color for the output, even with black-and-white systems (Mac Plus and SE). *FreeHand* has the same hefty \$495 price tag that *Illustrator* carries.

The third of Aldus' new products is *SnapShot*, a black-and-white image-processing program that allows you to edit digitized photos and other scanned images for use in *PageMaker* and other graphics programs. *SnapShot* offers the same types of features as Letraset's *Image Studio*, but *SnapShot* is not quite as nice. *SnapShot* will initially be available only for the IBM PC family of computers, but a Macintosh version is already under way.

Aldus started out just 3 short years ago with what many people considered a niche product. The niche turned out to be enormous, and Aldus is looking for ways to expand and break its image as a one-product company. Aldus seems well on its way to riding its initial success with the Macintosh to becoming one of the top personal computer software companies. ☐

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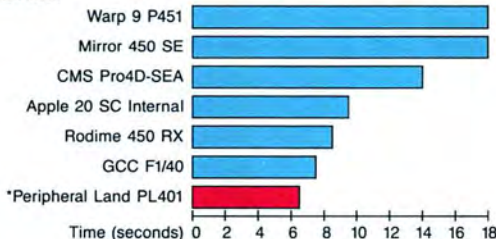
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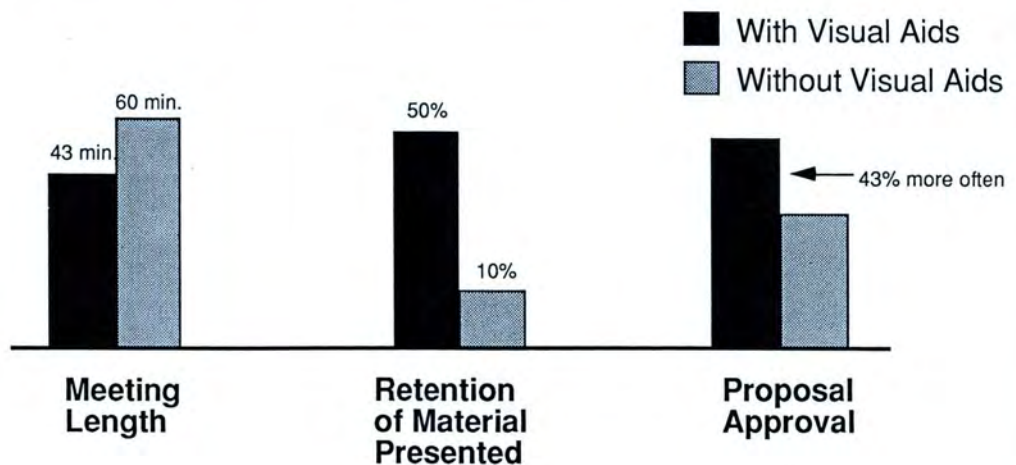
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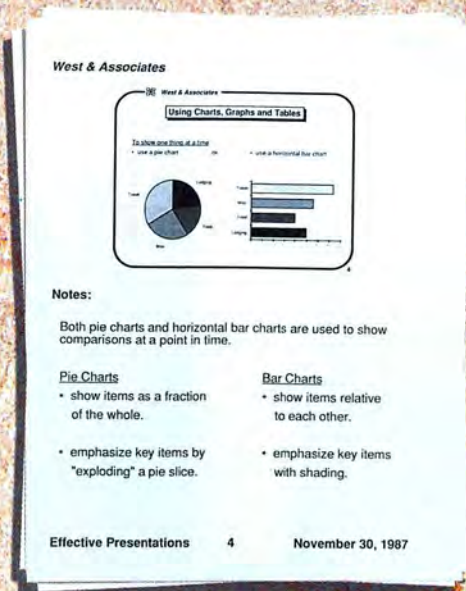
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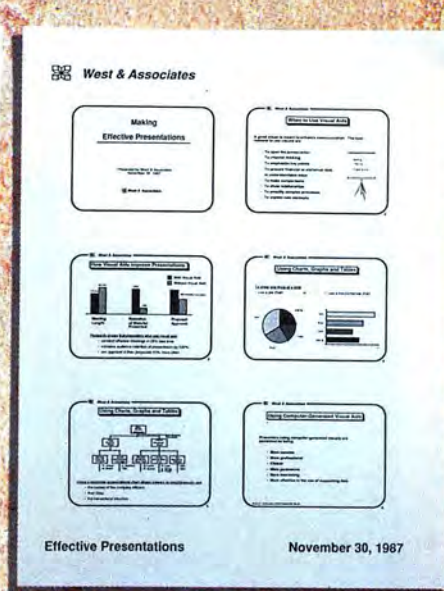


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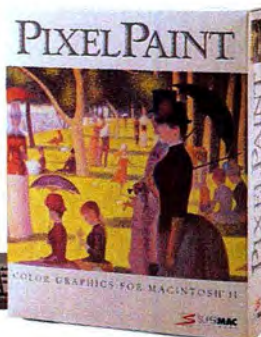
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by Doug Clapp

Not Quite a Fairy Tale

Color me perplexed.

Over the past few months, I've been reading (and reading and reading) about *Microsoft Word 3.0*. And talking with *Word 3.0* users and getting letters from *Word 3.0* users.

And guess what? People hate *Word 3.0*!

It's a gut-level, festering, snide, subterranean (you can use words like that when you've got a spelling checker) dislike. It's everywhere.

I just don't get it. Not only do I not get it, but I've got a small personal stake in this matter. Years back, I prattled on and on, like a ninny, about how great *Word 3.0* was. In print. Before *Word 3.0* was released. After using a beta version.

I should have known better, but I didn't. Users 1, pundit 0.

You know the rest: *Word 3.0* was released to a firestorm of jeers, the *Word* product manager got the boot, Microsoft frantically started bug-stomping, and Microsoft *Word 3.01* — a free upgrade — was finally released. (Believe it or not, I've got a disk here somewhere that's beta 3.01 "p" — Microsoft went through that many betas to fix bugs.)

But *Word 3.0* hasn't shaken its sordid past. It still seems sneered at incessantly. I say "seems" because *Macworld* pegs it as a best seller. In the top three every month.

Is it both? Universally disliked and overwhelmingly popular? Doesn't seem likely. Possible, but not likely. I don't get it.

So let me swim against the tide for a moment. And repeat: I think *Word 3.0* is great. I use it all the time, every day, for hours. It works, it's fast, it does what I want, I'm happy. For me, there's nothing close.

Which doesn't mean I don't pine for something better. As I write this, *FullWrite Professional* and *WordPerfect* are vapor. One may remain vapor, for all I know. If either program — or some surprise unknown — is a better word processor than *Word 3.0*, great. Great! I'd love a better word processor. I'd kill for a better word processor. And I'll be at the front of the line, hopping up and down, saying "It's better, it's better," if it happens. But right now, this second, as I type

this sentence, *Word 3.0* is the best there is. Sorry, but it's true.

So what's all this loathing about anyway? Bugs? That's understandable. The first release was an embarrassment. But 3.01 isn't bad. It's got bugs, you bet, but no more, I'd guess, than other programs pushing (or exceeding) 400K. You can't cut 400K of code and not make a few critters. Let's not even talk about *PageMaker* or *Xpress* or *Helix*. You want bugs? Heh, heh. And remember: the VaporWords will have their share of bugs, too. You better believe it. It's unavoidable.

What's next? "The user interface isn't Mac-like." That one comes up all the time. Not Mac-like. Clumsy. Stupid. IBM-ish.

This one has some merit, but only some. The notion of marking index and table of contents entries with — of all things — dot commands is a joke. No matter how often you try and kill *WordStar*, it keeps popping up, like Jason. A mouldering hand thrusts upwards from the grave and it's...dot commands!

Still, you can generate tables of contents from outlines, avoiding dot commands. If your document is large enough to need a table of contents, it should be outlined anyway.

Then there's automatic repagination. Everybody but me, it seems, wants automatic repagination. I don't, and here's why: Let's say you've got a 40-page document. And you cut a big chunk from the end and paste it in toward the front.

If you've got automatic repagination, you will now repaginate. Like it or not. And let's be honest: magic doesn't exist.

It's going to take time to paginate those 40 pages, especially if you've got lots of tricky formatting. Even with the best, tightest code, even with the trickiest algorithm in existence.

Do you want to wait each time you make a major editing change? Each time? Like waiting? Like waiting each time? Really?

I don't.

If one of the VaporWords comes along and does instant automatic repagination I'll cheer. But I'm not holding my breath.

Then there's WYSIWYG. People don't like Page Preview. Well, they like it a little, but they think *Word 3.0* should be Really WYSIWYG — you should be able to both see and edit columns.

Well...that's not a big deal to me, but okay: it'd be nice. Though I wonder if those crying for Really WYSIWYG really would create and edit text in multiple columns. It's a pain.

By the way: on IBMs it's not WYSIWYG, it's SWYG: See What You Get. (Thanks to Clint Hicks for coining that one. I love it.)

Is *Word 3.0* un-Maclike? Sure it is, a little. But not much. It's certainly not the way I'd design a word processor; it's more obscure than it needs to be and the features are disorganized. (Is Page Numbering in "Section" or "Page Setup"? Both! Jeez.)

But on the whole, there's more good than bad. And there's an abundance of niceties that partly ameliorate the clunks: keyboard commands for everything, a Work menu, short menus for wimps, Fast Save and more.



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And once you get Style Sheets, they're great. I should know: I just got 'em. Only took 8 months, but I got 'em. No pain, no gain.

Maybe that's part of the answer. *Word 3.0* does so much and has so many features, that it flummoxes most people. So people hate it.

Nobody can name the *Word 3.0*

Product Manager, and you can bet he or she won't be at your next user group meeting.

Nobody dislikes *Microsoft Works*, which I find interesting. Maybe it's because *Works* — not having many features — doesn't make you feel stupid. *Word 3.0* can, indeed, make you feel stupid. Since the whole idea behind Macintosh is "not making people feel stupid," that's a devastating flaw.

Or maybe, finally, it's that people don't like Microsoft. But why should they? Microsoft, God knows, ain't the underdog. And \$395 is a lot to swallow for software, whether *Word 3.0* or even *Excel*. Nor does Microsoft come across as "Champions of the People." Nobody can name the *Word 3.0* Product Manager, and you can bet he or she won't be at your next user group meeting. And there's the feeling with Microsoft products that you're being "told how it should be done" rather than "getting what you want." Scott Watson doesn't work for Microsoft.

Then there's the sordid story — true or not — of Microsoft's quashing of Apple's *Macintosh BASIC*. Then there's OS/2, in which Microsoft rips off Macintosh to line its pockets with money from born-again IBMers. (And even in the IBM market you get the feeling that Microsoft is dictating, not responding, to customers.)

Boy! In all, a lot of stuff. A lot of strikes. And no fairy tale ending, either. Maybe the vapor will clear and a Great Macintosh Word Processor That Everybody Likes will appear. But until then, *Word's* the best.

That's the way it is. If you don't like it, tough. Grow up. ☹

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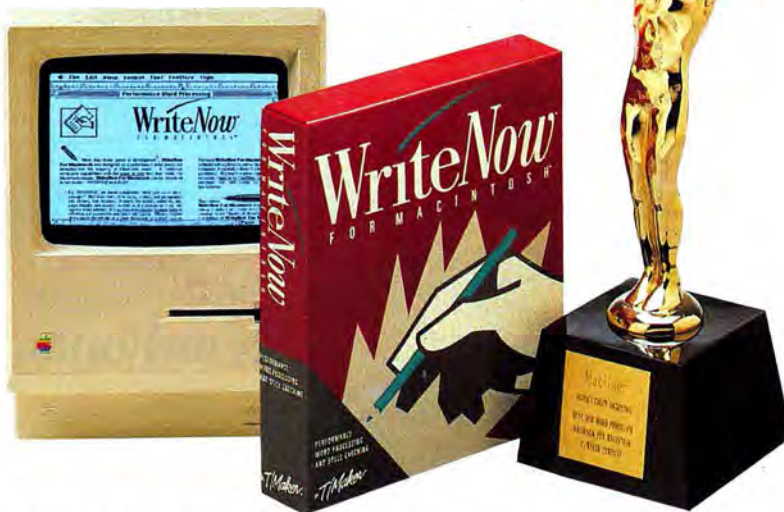
Steve Jobs,
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ForeRunner
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We were sick and tired of having to open several folders every time we wanted to run our applications. We also hated having to search all over the disk for the same documents... day after day. We actually started to (gulp) *hate* the Finder.

We realized we were wasting a lot of time in the Finder doing the same things every day. We wanted to show the computer *once* what applications and files we used for our everyday tasks, and where they were located. We wanted to save descriptions of these tasks in 'script' files. We wanted to be able to double-click these 'script' files from the Finder and have them run the applications with the files needed to do the given task. We wanted all of this and more...

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ForeRunner is an application that allows you to easily build 'scripts' for each of your everyday tasks. A simple ForeRunner script might run one application with a few documents open, whereas a complex script could run several applications one-after-the-other without quitting to the Finder in between.

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by Dan Cochran

Answers From the Mac Team

Got a Mac problem? Something that you'd like explained? Something you can't find the answer for anywhere else? Apple's Dan Cochran will answer your questions every month in this space. When the questions are too tough for him, he'll get the answers from other members of the Mac team. So ask what you need to know and get your answers straight from the source!

Send your questions to Dan care of MacUser, Suite 250, 110 Marsh Drive, Foster City, CA 94404. Dan will read all of your questions, but, unfortunately, he may not be able to answer individual queries.

COPY PROTECTION

Q. My purpose in this letter is to idly flame at you for a poor choice of words in your column in the November 1987 issue of *MacUser*. The particular word that I question is "enlightened" in the sentence, "Some of the more enlightened commercial games, like Silicon Beach's *Dark Castle*, don't penalize the hard disk user, nor do they implement copy protection."

Let us set aside the raging debate on copy protection. The arguments have been thrashed over many times and I am not about to go into them here. The point I wish to make here is that there is a debate, and the advocates on both sides of the issue have marshalled some pretty good arguments in favor of their positions. This is *not* a clear-cut, black-and-white situation.

It is therefore prejudicial to use terms such as "enlightened" for games lacking copy protection. I refuse to concede that Silicon Beach is more enlightened than any of the publishers who do use copy protection. More to the point, I think it is unkind for you to imply that those publishers who do use copy protection are unenlightened. You are certainly welcome to disagree with them and disapprove of their actions. But I think that the weight of reasoning that such publishers have assembled in favor of copy protection demands some respect for their intellectual integrity. The fact that you disagree with them is no justification

for implying that they are unenlightened.

To summarize: tut, tut!

CHRIS CRAWFORD

A. I'm not going to touch the copy protection debate either. I'll leave those issues to Shapiro, Dvorak, Clapp, et al. This isn't supposed to be a controversial column and I have no intention of making it one.

I do concede that my use of the word "enlightened" was judgmental and inappropriate within the context of my answer. And I apologize for the obvious implications. Enlightenment is probably a term best reserved for eastern religions.

In any case, I was attempting to attribute the "E" word to those games that don't penalize the hard disk user. Hard disks are becoming more and more prevalent and might ultimately become a fact of life for most Macintosh users. While I'm well aware of the perceived and possible real need to copy protect game programs, I can't believe that hard-disk compatibility and copy protection must be mutually exclusive. We did go through a cycle of hard-disk "Install" programs for copy-protected software. While I'm opposed to such schemes for expensive business and productivity software, I would more than welcome them for game programs.

Most of my favorite game programs are copy protected and I continue to use them and buy them. As a user, however, I'll still purchase unprotected software every time if given the choice.

[NOTE: Chris Crawford is the author of many outstanding game programs including *Balance of Power*.]

INTERNAL HARD DRIVES

Q. I recently purchased a new Macintosh II and I need some help. I purchased a two-floppy system and I have installed a Tulin 340 hard drive internally. I am using an Adaptec 4070 RLL controller for 48 megabytes of storage. The problem is that the Macintosh won't recognize the hard drive on start-

up. The Apple utility won't recognize that I even have any SCSI devices on-line. I am also using a Peak Systems 20-megabyte tape backup system. I had to use Mirror Technologies' hard disk utility to initialize the hard drive. At first, the hard drive would appear on the desktop if I booted from a floppy. Now I have to use the Mirror software to get the hard disk icon up on the desktop. After the hard drive icon is on the desktop everything works just fine.

I would like to know how to patch the System to allow my hard drive to load from a cold start.

On another subject, can I use any Toshiba 256K x 8 SIMM modules to expand my memory? I have located Toshiba SIMMs, but the numbers on the chips are different than the numbers on the chips in my Macintosh II. Both are Toshiba chips, however. The chips I have located have G861214 on them and the board has TM4x56GU8 on it. The Mac chips have ZA1598-12L on them and the SIMM card is 474-200. Both are 120ns chips. The supplier doesn't know if they will work and if I buy them they are mine regardless.

DON HULSEY
OLATHE, KS

A. I'll take six guesses on your hard drive problem:

1. Your Tulin drive isn't terminated properly. Apple's internal Macintosh II hard drives are all internally terminated with resistor packs. If you pull these "R-packs" out of the Apple internal hard drive controller card you'll get the same symptoms you describe with your Tulin drive. A quick way to test this is to beg or borrow an Apple SCSI cable kit with a terminator connector. Connect the terminator connector to one end of the SCSI cable and connect the other end to the external SCSI port of your Macintosh II. Don't attach any SCSI devices — just leave the cable hanging there. This will effectively provide termination for your internal drive. Now attempt to boot your system from the internal drive. If this works then you'll need to contact Tulin or the controller manufacturer to find out how to terminate the drive on the controller card. You may have to reinitialize the hard drive as well.

2. If your Peak Systems tape backup is a SCSI device, as I presume it is, the Tulin drive and the tape backup device may have conflicting (i.e., the same) SCSI priority numbers. If both SCSI devices have priority numbers of 0, you probably won't be able to boot from your hard drive without crashing. There are probably either jumper blocks or DIP switches on both the drive



and tape controller cards that will allow you to assign SCSI priority numbers. Set the Tulin to 1, and set the tape drive to 0.

3. Your internal drive is terminated properly, you don't have conflicting SCSI numbers, but your tape backup device isn't terminated internally on its controller card. Attach a terminator connector to the tape backup device's SCSI cable between the SCSI cable and the SCSI port on the tape device.

4. You don't have the proper software SCSI driver for your hard disk. Check with Tulin and/or the controller card manufacturer.

5. You have some combination of two, more or all of the above problems.

6. The damn thing's broken.

Either of the Toshiba SIMM modules you describe should work just fine according to a local Toshiba representative. Just don't mix 150ns chips with 120ns chips.

A FE QUESTIONS

Q. I am using a Mac Plus, an HD20 and an external 800K drive. Do the hardware and software exist to allow me to copy text files onto an external drive for 5¼-inch floppies in the correct format to people using the "other" computer? If I can't do this on the Mac Plus,

could I do it with an SE or a Macintosh II?

RONALD E. BROWN
LOS ALAMOS, NM

A. No problem. But you'll need a Macintosh SE or a Macintosh II, an Apple PC 5¼ disk drive with controller card — available from any Apple dealer and a copy of the Apple File Exchange (AFE) program — available with the latest Macintosh System Software Update Package, Version 5.0.

AFE allows you to import and export Apple II ProDOS and MS-DOS documents to and from Macintosh computers, Apple IIs and "others" as well. AFE comes with a number of translator files that will allow you to migrate DCA, WordStar, MultiMate and MacWrite file formats with impunity. And third parties will undoubtedly be providing many additional translator files for converting between MS-DOS and Macintosh spreadsheet and data base files.

MAC II SCREEN DUMPS

Q. Page 191 of my Macintosh II owner's manual says, "Holding down the Apple and Shift keys while pressing a 3 creates a MacPaint docu-

ment with the current contents of the screen." I was quite familiar with this screen dump technique with my Macintosh Plus. Now, every time I attempt it on my Macintosh II, the machine just beeps at me. I have a Macintosh II with 2 megabytes of RAM, an internal 40-megabyte hard drive, and a color RGB monitor. Can you help?

BARBARA WINTER
ORLANDO, FL

A. The screen dump sequence (COMMAND-SHIFT-3) creates a MacPaint compatible document which can then be viewed and modified using MacPaint or any paint program that can read MacPaint files. MacPaint screen dumps are very useful for user documentation, reporting bugs to software developers and to cannibalize graphics and images for other uses.

But remember that MacPaint is a black and white application. It only knows how to deal with files that have a pixel depth of one (either a dot is black or it's not). The Macintosh II, however, is capable of displaying in black/white, gray scale, or color at pixel depths of 1, 2, 4 and 8 which allow for 2, 4, 16 or 256 colors or shades of gray. You are trying to do a screen dump with the Con-

The Prayer.

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slides I don't have for tomorrow morning's presentation will cost us \$150 apiece—thanks to the slide pharaoh's 'rush' charges.

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trol Panel set at something other than 2 colors. That's why you're getting beeped. Before attempting a Macintosh II screen dump make certain your Control Panel is set to 2 shades of gray or colors. We'll clarify this in the next version of our User Manual.

You should also get your hands on a copy of the FKEY Switch-A-Roo by Bill Steinberg (available from user groups and BBSs). This FKEY will allow you to quickly toggle back and forth between video modes with a simple keystroke combination. You won't have to bring up the Control Panel every time.

And in the "You Didn't Ask But I'll Tell You Anyway" Department: Macintosh II screen dumps get rotated 90 degrees to allow the entire 640 X 480 pixel image to be saved in a MacPaint document at actual size. If the screen dump was saved without rotation you'd lose approximately 1 inch from the right side of the screen.

HYPERCARD PLUG

Q. I've been subscribing to three Macintosh magazines — and I have now let all the subscriptions expire except for *MacUser*. It seems it's almost the only one which has not forgotten that the majority of us out here have

nothing more fancy than a Macintosh Plus and an ImageWriter. One develops an inferiority complex when constantly faced with material which assumes we're all tooled up like six-figure businessmen or addicted professional hackers or programmers. Thanks for not forgetting us.

In our monastery we have a small library, and we are about to undertake a recataloguing. It seems that it would be ideal to set up Master Cards and then be able to run author, title and subject cards without having to re-type each one. And it sounds like a job for Brother Mac — but I have been unable to find any Macintosh software which includes templates or set-ups for 3 X 5 cards. Most library firms offer such software, but apparently not for the Mac. I suppose there is some obvious product that I'm simply not aware of.

FATHER JOHN-JULIAN, OJN
THE ORDER OF JULIAN OF NORWICH
NORWICH, CT

A. Where have you been for the last 3 months? In a monastery? (Sorry, couldn't resist). There are many appropriate products for the type of task you envision (FileMaker Plus, Reflex Plus, dBase Mac, Omnis, 4th Dimension, etc.). These are

high-end data base products that allow a tremendous amount of flexibility, particularly with respect to user-interface design and reporting capabilities. But your best bet might be HyperCard from Apple Computer — especially if you are intrigued by the 3 X 5 card metaphor. HyperCard will easily allow you to catalog your library on 3 X 5 cards of your own design and will facilitate the retrieval of information on designated criteria.

You can read more about HyperCard in *MacUser's* December 1987 issue. And you may even find yourself becoming an addicted, frothing, HyperCard hacker. To accomplish this you'll probably need a copy of Danny Goodman's *The Complete HyperCard Handbook*, available at most bookstores that carry computer books.

Keep your eyes on your mailbox. I've got an extra copy of HyperCard that I'd love to donate to your Order. Mere mortals and Jesuits (they get enough money from me on alumni contributions) can pick up a copy at their local Apple dealer for the worldly sum of \$49.

BAD SECTORS?

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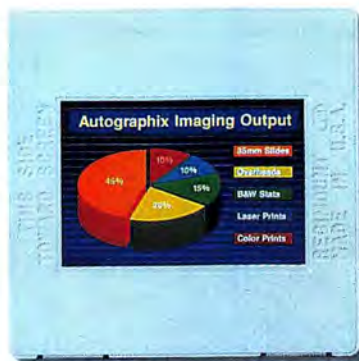
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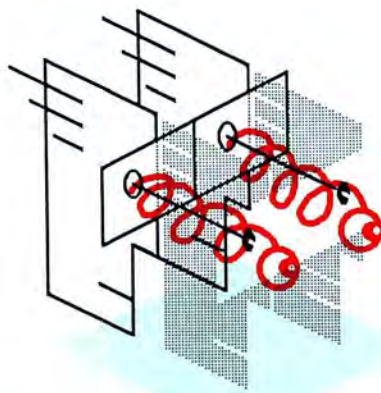
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pics and encountered a bad sector it would refuse to use the floppy again, but there was a nice public domain program called *Find Bad* that would go through the formatted floppy and lock out any sectors which were bad and give them a name in the file directory so that the rest of the floppy could still be used. Is there a utility like this available for Macintosh floppies?

I have quite a collection of used floppies which generate the error message: "This is not a Macintosh disk: Do you wish to initialize it?" When I initialize the disk it usually fails although sometimes one-sided initialization is possible. Is there a utility which can bypass the error message, find the bad sectors and map them out so that the rest of the floppy can be used?

WILLIAM HUMPHREY
PUERTO REAL, PR

A. Floppy disk initialization on the Macintosh is an all-or-nothing affair. While you might feel that a single bad sector shouldn't warrant an outright rejection by the disk initialization package, we'd rather have our users be safe than sorry. A bad sector is symptomatic of deficient media and there isn't any assurance



that other sectors on the diskette won't also become unreadable — perhaps right in the middle of an important session or file save.

Also, make certain that you aren't trying to initialize single-sided media on two sides. While you may be able to successfully perform a two-sided initialization on one-sided media this practice is downright dangerous if you value your data. Only use two-sided disks for 800K volumes and get rid of any disks that won't format properly.

[Editor's Note: We can't agree with you on this one. We've been successfully using single-sided disks as double-sided

disks for a long time and our experience and all we've heard indicates that this is a safe, reasonable and cost-effective way to go.]

If you consistently have trouble formatting known good disks, you probably have a problem with your drive. Your dealer has software to assist in diagnosing your drive hardware.

LCD DISPLAYS

Q. There is a nifty product available for the IBM PC and Apple IIe machines — an electronic liquid crystal display unit that fits onto an overhead projector so the monitor image is projected onto a large screen for a whole group to see. Is there such a device for the Mac? I realize that the key lies in the different monitor resolutions, but I would really like to be able to use such a device.

JAY WARNER
RACINE, WI

A. Several companies (including Comtrex, Kodak and Telex) are already shipping or intend to ship Macintosh-compatible LCD display units for overhead projectors. For machines with standard NTSC video-output connectors (Apple IIe and IBM PC) the process is

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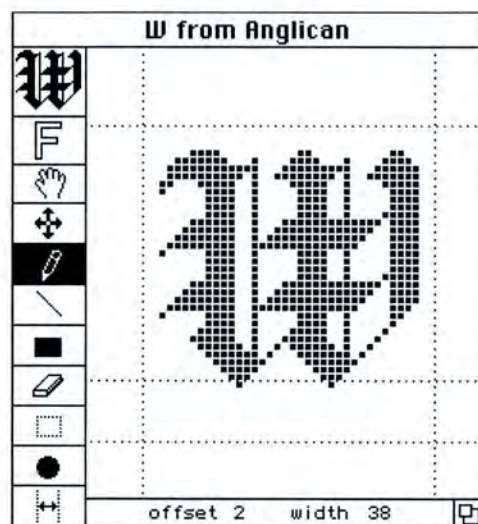
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pretty straightforward. For machines like the Macintosh Plus, Macintosh SE and Macintosh II, special video cards and/or motherboard modifications are required to bring the non-standard Macintosh video signal to the display unit.

Word has it that these are, indeed, very hot products and Comtrex is having problems keeping up with the demand (they're in El Toro, CA at (714) 855-6600).

SCREEN DUMPS AND MONEY

Q. I can't seem to get a straight answer to either of these questions; perhaps you can help.

1. At work I use a Mac Plus networked via AppleTalk to a LaserWriter Plus. Is there any way to do a screen dump to this printer similar to that possible on a Macintosh linked to an ImageWriter using the COMMAND-SHIFT-4 sequence?

2. One of the best personal financial software packages I've seen for a PC (Mac or IBM) is Andrew Tobias' *Managing Your Money*. For years it's only been available for the IBM PC. Are there any plans by the manufacturer to make a Macintosh version?

Thanks very much for the help!

BRIAN A. JOBST
ONTARIO, CA

A. 1. Apple's standard System software doesn't permit LaserWriter screen dumps and I don't know of any utilities (DAs, FKEYs, INITs) that do. There's a simple workaround. Create a MacPaint screen-dump image on your disk using COMMAND-SHIFT-3 and then print the resulting document with MacPaint, FullPaint or SuperPaint.

2. A Macintosh version of the popular *Managing Your Money* program by Andrew Tobias is under development and should appear at dealer shelves in early 1988.

SNDS

Q. I'm the proud owner of a new Mac SE hard drive system. Having upgraded from a 512 that I've used for a year and a half, I'm very familiar with the Mac systems. There are, however, a couple of new possibilities I'd like to investigate.

First of all, is there or will there be a keyboard mapping utility for the function keys on the Extended Apple Keyboard? Is there possibly another way, using *Fedit* or *ResEdit*, to remap those keys without this phantom utility?

Second, in nosing around with *ResEdit* I have noticed that the snd resources

that exist in the System file on the Mac II are also present in the System file on the Mac SE. How can I make these sound resources work through the Control Panel on the Macintosh SE?

SHAWN R. JOSLYN
LANSING, MI

A. Those of us with Apple Extended Keyboards (affectionately code-named "Saratoga" at Apple for their uncanny resemblance to the aircraft carrier of the same name) could all do well to pick up a copy of *QuickKeys* from CE Software. There may be other, less expensive utilities that will allow you to map single keystrokes to single keys. And a Fedit hacker could find the keyboard lookup table in the System file and probably wreak some major havoc. But *QuickKeys* allows you to map multiple keystrokes, mouse movements, FKEY invocations, application/document launching and so on to any single keystroke or combination of keystroke and modifier keys.

And, yes, Mac SE and Macintosh Plus owners can now change their beep sounds via the Control Panel just like us rich folks. Riccardo Ettore has a shareware cdev that you place in your SE or Plus System folder. You, too, can now listen to Monty Python's



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John Cleese shouting "Spam!" every time you make a mistake. I found this gem in CompuServe's MAUG MacUser Data Library 2. It's appropriately named IBeep-2.PIT and it's also available through user groups and other electronic services. Stick the IBeep2.cdev file in your System folder and use ResEdit to move desired Macintosh II snd resources into your SE or Plus System file.

SE/II SCSI DIFFERENCES

Q. I have a Macintosh SE with an external Apple SCSI drive and a Macintosh II at the office. I often bring my external SCSI drive to work when I need to transfer files between my work and home machines. I'd swear that my external Apple SCSI drive is noticeably slower in transferring files to my Macintosh II than other Apple SCSI drives here in the office. I've taken my drive to my dealer and he says that everything checks out fine. But I know something is amiss. Can you help?

REED KLEIN
ARLINGTON, MA

A. Here's your answer direct from Apple Technical Communications:
"The ROMs of the Macintosh SE and

Macintosh II have different SCSI disk interleaving schemes. Although disks can be used interchangeably, they will work most efficiently on the system on which they were initialized. The Macintosh SE uses a 2-to-1 interleaving scheme, while the Macintosh II uses 1-to-1 interleaving.

"Therefore, a SCSI disk initialized on a Macintosh SE and moved to a Macintosh II will not transfer data as quickly as a Macintosh II SCSI drive, since the Macintosh II will be forced to wait for every other block of data, rather than using them in sequence.

"If a Macintosh II SCSI drive is taken to a Macintosh SE, the speed difference will be even more apparent. The Macintosh II drive will have blocks allocated in sequence on each track. But the Macintosh SE will not be able to accept the data that quickly, so the drive must make almost a full rotation before the second block again passes under the head, and the information can be read from the drive."


THANK YOU, ED

In the November '87 issue of MacUser, Steve Gordon wanted to know a way to switch between the Apple standard and extended keyboards during a session. While you can't add or remove ADB devices while

the computer is running, I overlooked an obvious workaround (brought to my attention by Ed Tecot of our Systems Software Group and Don Duncan — both astute MacUser readers). If you've got enough real estate on your desk just keep both keyboards attached at the same time (either daisy-chained or directly connected to the Macintosh II). As long as they are both connected at system startup time, they'll each be properly recognized by your CPU. Bring up the Key Caps desk accessory and start typing on the standard keyboard. If you switch over to the extended keyboard the Key Caps display template will change to reflect the extended keyboard layout!

HYPERCARD HINTS:

According to those in the know, you'll get improved performance with HyperCard if you turn off the Control Panel RAM cache switch. HyperCard employs its own caching and data compression scheme and would rather do things its own way.

HyperCard's visual effects are disabled on a Macintosh II unless the video card is set to a two-color mode. Use the Monitors icon in the Control Panel to set your card to two-color mode if you want access to all of HyperCard's features on the Macintosh II. 

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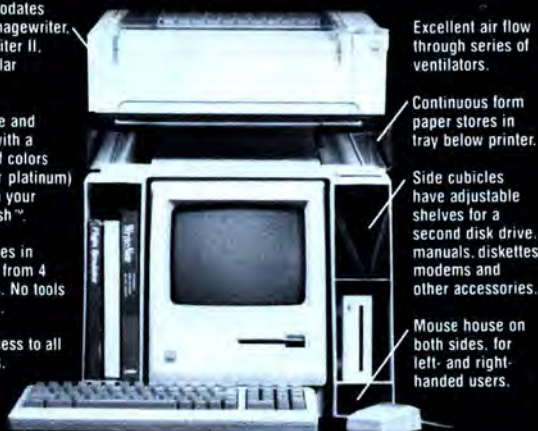
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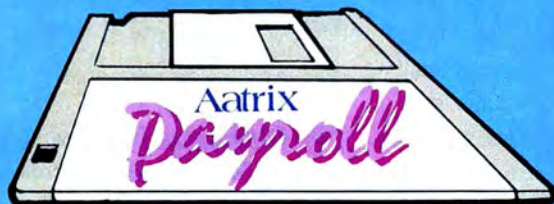
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Yes, you can.

Can you, a dealer, confidently deliver a database solution?

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No compromises. No sacrifices. 4th Dimension has so much power it will make your head explode.

Buy 4th Dimension and own a piece of the Macintosh dream."

Guy Kawasaki

Ex-Macintosh software evangelist ■



"I have absolutely no training in databases, but I'm now using 4th Dimension day in and day out."

"Anything I want, I can build by myself.

The graphics are super. 4th Dimension

is so easy to set up, easy to modify, flexible and powerful. And I'm getting technical support from ACIUS anytime I need it.

4th Dimension doesn't eat data. If I make a mistake, data is preserved. I've never needed a backup copy of anything, and I've put it through some pretty severe torturing."

Walter W. Stewart

4th Dimension end user

*Research Physicist, National Institutes of Health** ■

"4th Dimension is the most powerful database I've ever recommended for a micro."



"And it's in the same class as the most powerful databases for minis and mainframes.

We've sold a lot of them. I feel good about recommending it, whether to low end users or high.

It's easy to use and easy to program. You have all the features of the Mac interface that make it easy. Windows. Menus. Buttons. Scrollable areas. Graphics.

It simply gives you all the tools you need to fully exploit the Mac and bring new power to your specific applications.

YOU CAN.

In fact, I've become a developer myself. I wanted a point of sale application to run my business. I developed the system originally on a competitive product, but it didn't have the horsepower to solve the problems. 4th Dimension has the power to do anything I want to do.

I can offer no more sincere testimonial for the products I sell than to use them to manage my own business."

Dick Applebaum

*Apple dealer and business co-owner
Computer Plus, Inc.* ■

"When you sit down at a computer, there are two ways to go, IBM® or user friendly."



"In other words, what you see is what you're used to working with.

These are the reasons I like 4th Dimension: It's got the power to do everything I need in a com-

plex vertical market. It's got the interface to make that possible without taking on a second career. It's got layout graphics that can make your product look as good as it works.

You can sit down and use 4th Dimension without doing much to it, and you still have complete power. It has some dynamic, *dynamic* graphics. All this without programming. The others bog you down in housekeeping chores.

The custom mode enables me to use words, sentences, phrases, and icons that are familiar to my people in the real estate business. I have the ability to customize menus and menu items.

I enjoy working with 4th Dimension because of its power, interface, and the ability to create custom programs for my clients. I can't think of anything better than 4th Dimension as a development tool, and I've looked at them all."

Ted Bohrer

Developer

Concept 2001 ■

"The thing I like best about 4th Dimension is that it works the way I expect it to work."

"The whole screen interface is so much nicer than the others.

With dBASE,™ I spend a lot of time looking at the books and then creating screens. I never get it near right the first ten times.

I really like the way the subfiles work. I use that a lot because I maintain inventory sheets and I need to pull information from other places.

I like how it does everything automatically, like buttons, radio buttons, check boxes, and scrollable windows. You really don't need training to use these features."

Diana Foster

4th Dimension user

PC Coordinator ■



*The opinion expressed is not an endorsement by the National Institutes of Health nor the Federal Government.

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Quick Clicks are short reviews of released products, not beta release, pre-release products or vaporware. If it appears here, it is available commercially. Products reviewed here will often be the subject of a longer review in a future issue.

CRYSTAL PAINT

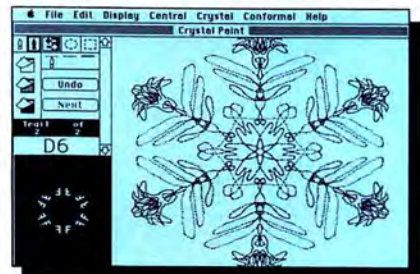


List Price: \$79.95.
Published by Great Wave Software, 5353 Scotts Valley Drive, Scotts Valley, CA 95066. (408) 438-1990. Requires 512K+ RAM; does not work in color on the Mac II. MultiFinder friendly. Not copy protected.

Kaleidoscopes are almost irresistible. Walk past a counter with a kaleidoscope and just try not to pick it up and look through it. It's almost impossible. We develop a fascination with the changing crystal patterns as children, when everything is fascinating because it's all so new. But the kaleidoscope is one of the few objects of childhood that remains fascinating throughout our lives. It's one of the toys, like electric trains, that parents can't wait to give their kids so they have an excuse to play with one again.

Crystal Paint from Great Wave Software is an electronic kaleidoscope: a computerized pattern maker that lets you create intricate, full-page designs with a few simple strokes; play with reflected shapes in a myriad of orientations; automate drawings so they redraw continuously or set the Mac on autopilot and watch it create random, kaleidoscopic displays. It is *MacPaint*'s BRUSH MIRRORS gone wild in a small, simple, yet wonderful application.

Crystal Paint has few tools. In fact, there's really just the pen, in three thicknesses, and a choice of white, black or gray paper. But it has many pattern varia-



tions, from simple mirrorlike reflections to complex tessellations (overlapping geometric images in a mosaic pattern).

There are ten variations on the brush mirrors concept, called Central Patterns. These patterns create single or double images that repeat around the center of the screen, with reflections in two to six planes.

Then there are 17 tessellations called Crystal Patterns. Unlike the central patterns, crystal patterns do not radiate from the center, but instead repeat throughout the page. The crystal patterns fill a page with multiple copies of an image in intricate mosaics.

There are also three spiral patterns called Conformals. These patterns radiate from the center and reflect back on themselves.

Painting with *Crystal Paint* is just short of magical. With some patterns, a single short pen stroke creates a page full of intertwined lines. Each continuous pen stroke is called a trail, and consists of the stroke itself and its reflections. After drawing one trail, you can switch patterns and draw another, different trail on top of it. There is virtually no limit to the number of trails you can draw and the trails can be edited individually at any time. Designs can be printed as shown on the screen or as full-page patterns. *Crystal Paint* has full Clipboard support, so patterns can be pasted into virtually any drawing or paint program, and a special option makes it easy to design borders.

Even better, though, are *Crystal Paint*'s import capabilities. Pictures pasted into *Crystal Paint* are pasted not as an individual object, but as a set of objects according to the currently selected pattern. Moving a selected image also repositions all the reflections. When the pattern is positioned the way you want it, you QUIT PASTE and the pattern is drawn as a trail.

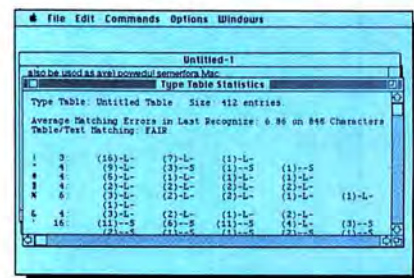
Crystal Paint is a lot of fun to play with, and practical for designs that require symmetry or multiple images. If you get bored painting incredible designs, set the program on Autopilot and just sit back and watch as the screen goes kaleidoscopic. — MDW

READ-IT!



List Price: \$295; ThunderScan version, \$149.95. Requires at least 1 megabyte of RAM. Hard disk recommended. Version 1.0 reviewed. Olduvai Software, 7520 Red Road, Suite A, South Miami, FL 33143. (305) 665-4665. Not copy protected.

Remember the example your high school math teacher used to illustrate probability? If you locked a chimpanzee in a room with a typewriter, it would eventually produce the complete works of William Shakespeare, without any er-



rors. Well, optical character recognition (OCR) is running just about the same course. In time it too will be able to produce a text file from a scanned image with 100 percent accuracy. While *Read-It!* doesn't quite make the grade, its impressive capabilities and low price make it the sensible choice for OCR on the Mac.

Read-It!'s principle is simple. You scan a typewritten document to get a picture; *Read-It!* compares the picture of a letter with those in its Type Table to find a match with the actual ASCII character. It then builds a text file that you can save and edit, or import into another application.

Read-It!'s most flexible feature is that it works with any scanner that saves images as bit maps or in the PICT or TIFF formats. You import the scanned image

Borland's new SideKick[®], Release 2.0, gives you MacPlan[™] and a whole new Outlook[™]



Release 2.0 includes Outlook: The Outliner, the "thinking" desk accessory with more power than a standalone outliner, and MacPlan: The Spreadsheet, that does formulas, straight numbers, and also integrates spreadsheets and graphs.

Outlook and MacPlan work in perfect sync with each other and *while you run other programs!*

A quick look at Outlook

It's a "thinking" tool that lets you organize, re-organize, and gather your thoughts while you write.

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Outlook lets you incorporate both text and graphics into your outlines and allows you to work on several different outlines at the same time.

A fast scan of MacPlan

MacPlan is a highly visual spreadsheet that pictures your numbers without numbing you with numbers.

You can do graphs like bar charts, stacked bar charts, pie charts and line graphs.

MacPlan includes 12 *free example* templates and lets you paste graphics and data right into your Outlook documents for professional results.

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Doug Clapp, MacUser ”

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Minimum system requirements:
Any Macintosh with at least 512K.

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ThunderScan 4.0 (incl. Powerport)	172.00
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STATISTICAL ANALYSIS

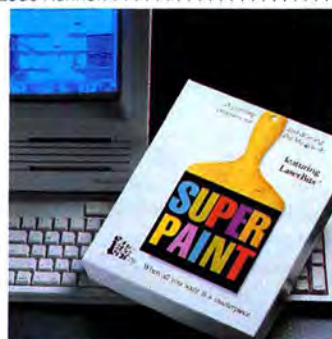
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SuperPaint (Silicon Beach) — Painting, drawing, 300 dot-per-inch editing, new graphic tools, and more. (graphics) \$79

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BMU 288



QUICK CLICKS

into *Read-It!*, select a pre-defined Type Table that matches the print and choose RECOGNIZE from the Commands menu. You then wait while *Read-It!* plays matchmaker. The first time through you'll probably get gibberish. O's will be where C's should be, and k's and h's are freely intermixed.

To increase the accuracy of matching images to ASCII characters, you'll have to build and customize the Type Tables yourself. The hitch is it takes time — lots of it. Using the Learn mode, you essentially teach *Read-It!* to recognize a particular graphic representation of a letter as its ASCII counterpart. This is done for the entire alphabet (both upper and lower case), numerals, punctuation and a few common symbols (#, \$, %, &, etc.). If the type you're trying to get read was kerned or has ligatures (where two letters actually touch one another), you'll need to specify that the one pair represents two distinct letters.

Luckily, you probably won't have to build a Type Table from scratch. The pre-defined Type Tables include those for popular typewriters (like the Brother AX-26 and Panasonic R310) and dot matrix and laser printer fonts. But the type produced on two separate typewriters of the same brand and model varies — as any reader of British mystery novels knows.

You can fine-tune existing Type Tables even further. After processing a document choose the SHOW TYPE TABLE STATISTICS command. The stats tell you whether the match was "inadequate," "fair" or "good." It also shows how many times a character showed up in your document and what its characteristics are (whether it is large or small or has an ascender or descender). You check the table for anomalies (for instance, an "l" being recognized as an "i"). The EDIT TYPE TABLE command allows you to modify the Type Table. Do this enough and *Read-It!* begins to notice every nuance of a particular font when it is printed on a page.

To help accommodate different formats, an option in *Read-It!* allows you to use multiple Type Tables for documents that mix fonts (bold, italic and plain face, for instance). There is also a KEEP FORMAT command that inserts space to represent tabs.

Is *Read-It!* cost-effective? The consumer value is unbeatable. If you're already going ahead with an OCR setup, you might as well get *Read-It!*, especially since systems that do the same thing cost several thousand dollars more. How does it compare to having a typist manually key in the information? It took *Read-It!* 3 minutes to process a 180-

word document. That's about 60 words a minute. Not bad, but that's not counting the scanning time. And the file still had to be run through a spelling checker. *Read-It!* never faithfully reproduced a document with 100 percent accuracy.

It's significant that *Read-It!* is offered in a special ThunderScan version for less money. In many ways the two products are similar. ThunderScan made digitizing affordable; *Read-It!* produces acceptable output at a fantastic price. Still the same, you — like your high school math teacher probably did — might want to bet on the chimp. — BT

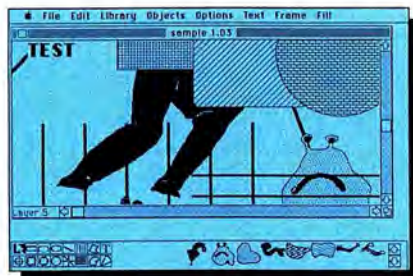
"DRAW IT AGAIN SAM..."



List Price: \$150.
Published by Aba
Software, PO Box
850, Frazer, PA
19355. (215) 640-
4770. Version 1.03
reviewed. Not copy
protected.

All right. Let's get it out in the open. I love the name. Too bad we don't award mice for great program titles; "*Draw it again Sam...*" is a five-mouse name.

The program itself is not yet at the five-mouse level, but it certainly has the potential to get there. "*Draw it again Sam...*" is an object-oriented graphics drawing program, like *MacDraw*, that adds such useful wrinkles as layered drawing, on-screen libraries and color.



With a full palette of drawing tools, "*Draw it again Sam...*" allows you to work on up to ten layers, each of which may be defined as visible, invisible, gray or outline. Command key/number combinations move you from layer to layer. Objects can be transferred from one layer to another and elements, brought in through the Clipboard, pasted to a particular stratum.

Documents can be printed in their entirety or in layers. So "*Draw it again Sam...*" is perfect for "laminated" con-

structions. And since objects can be assigned colors individually, the program can be used to produce color separations as well. Mac II users (with RGB monitors) will be able to see the colors on their screens. Color hardcopy is possible on the ImageWriter II.

"*Draw it again Sam...*" also lets you organize frequently used drawing elements into libraries, which can be accessed from within the program. There is no limit to the number of libraries and each can hold up to 500 objects. Objects can be retrieved by name from the menu or simply selected in the scrollable icon bar. In either case, the cursor changes automatically to a "bull's-eye" and clicking on the drawing places the object at that location.

Patterns and colors can be assigned to the outline (Frame) of an object, to its interior (Fill) and to text. The program also supports QuickDraw's Opaque, Clear (transparent white pixels), Invert and Erase modes. When used with the Clear mode, some patterns can be merged and colors mixed for special effects.

The program's drawing area can be customized to any size and its units of measurement set in inches, centimeters, picas, points or engineering inches. Rulers — in the same choice of calibrations — and grids may be toggled on or off the screen. A fully editable Shrink to Fit option lets you see the entire drawing, but slows down screen redraws significantly. (On my stock Mac Plus, turning off the grids restores some zip, however.) ZOOM-IN and -OUT commands permit up to a 12X reduction or magnification of the normal image. And a Mouse Window reads out precise information (current location, change [Delta] from one position to another, exact location of the last mouse click and diagonal [hypotenuse of right triangle] change in click locations) about mouse position and movement.

"*Draw it again Sam...*" comes on a single 800K disk, requiring a Mac 512E, Plus, SE or II. A hard disk is recommended but not necessary. However, when running from floppies, make certain the program and *System* have enough room to breathe on the disk. In its current incarnation, "*D.i.a.S...*" can still be quirky when cramped. So transfer these files to their own floppy and keep your documents on separate data disks. Then it works fine.

Major improvements? I'd love to be able to see at a glance which layer a particular object occupies, especially when many elements are distributed over several strata. Currently, you must either re-

MacCalc

Speed, Style, Simplicity



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MacCalc is the fastest spreadsheet you can buy, and More Speed gives you Greater Productivity.

"Amazingly speedy...[MacCalc] runs faster than Excel." — *InfoWorld*, November 3, 1986
 "Special routines in MacCalc make operations such as entering data and recalculating, opening files, scrolling...faster than Excel." — *Macworld*, December, 1986



Ease

MacCalc is easier to use and learn than any other spreadsheet, and Greater Ease means Less Frustration... "Simplicity is the ultimate sophistication."

"[Working] in MacCalc is easier than in Excel." — *Macworld*, December, 1986
 "Designed to be easy to use, and succeeds admirably." — *MACazine*, March, 1987
 "MacCalc answers the frustration of Excel users — its carefully planned menu structure makes MacCalc exceptionally easy to use." — *MacWEEK*, June 15, 1987
 "Simplicity and ease of use are MacCalc's greatest assets...[seen in] the richness and ease of use embodied in its user interface." — *MACazine*, November, 1987



Looks

MacCalc is the only spreadsheet which allows each cell to have its own format, font, size, and style — allowing high-impact, desktop publishing quality output, and Greater Clarity creates Dramatic Presentations.

"MacCalc offers [the most] flexibility in page and font setup, and has the most printing options." — *Macworld*, December, 1986
 "MacCalc lets you dress up your spreadsheet..." — *Publish!*, June, 1987
 "MacCalc's formatting features allow your spreadsheet to look more like pages from a finished report...brings the concept of publication-quality spreadsheets closer to reality." — *InfoWorld*, June 22, 1987



Value

At \$139, MacCalc provides the greatest value at about 1/3 the price of Excel.

"The clear value leader." — *InfoWorld*, November 3, 1986
 "MacCalc is a spreadsheet package of exceptional value." — *MacWEEK*, June 15, 1987
 "The best deal in a spreadsheet package that I've ever come across, bar none." — *MACazine*, November, 1987

	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	1987 Tot
East	\$1.2	\$1.5	\$1.7	\$1.3	\$5.5
North West	\$2.0	\$2.2	\$2.7	\$2.6	\$9.5
South West	\$1.9	\$2.2	\$2.2	\$2.3	\$8.6
Central	\$0.6	\$1.0	\$0.9	\$1.0	\$3.7
Totals	\$5.9	\$6.7	\$7.5	\$7.2	\$27.3

Note: 4th Quarter results are estimated.

The Best Spreadsheet — MacUser Editor's Choice Award

"It's faster than either Multiplan or Excel, and once you move [to MacCalc], you're not going to want to move back"

— *Macintosh Buyer's Guide*, Summer, 1987

"...MacCalc is a must-have. The product itself is highly functional, easy to learn and to use, and definitely supports the most visually appealing formatting/printing capabilities." — *MACazine*, November, 1987

"If you are interested in attractive output and value, MacCalc is the spreadsheet for you." — *InfoWorld*, June 22, 1987

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- Full Undo command
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THE BOTTOM LINE: You can buy the slower, more difficult, overpriced, over-featured product from the competition, or you can buy MacCalc, the best spreadsheet for your real needs, for \$139.

For technical, corporate, or dealer information, please call 415/841-8552. MacCalc is available at better dealers everywhere. To order MacCalc directly for \$139 (plus tax in CA), please call our order desk at 800/345-2886 (orders only, please), and have your VISA or MasterCard ready, or write. (Purchase orders cannot be processed.) Bravo Technologies, Inc., c/o DPAS P.O. Box 1, Gilroy CA 95021-2249. MacCalc® is a registered trademark and minimal recalculation™ is a trademark of Bravo Technologies, Inc. Other product names mentioned above may be trademarks of their respective manufacturers.

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QUICK CLICKS

member the location or step through
each layer to find your object. Better ro-
tational capabilities would be nice too.
Presently objects can only be rotated in
90-degree increments. And a new man-
ual. This one is weak and has errors.

With some programs, improvements
are often pipe dreams. However, "Draw
it again Sam..." is, in the positive sense
of the phrase, a work in progress. Even
after its release the developers are con-
tinuing to revise it and incorporate users'
recommendations. After I spoke with
Aba, some of my suggestions were added
to the Ver. 1.03 reviewed here (a minor
bug was eliminated and a dialog, warn-
ing of a "full disk" condition when sav-
ing documents, implemented). New
documentation, I was told, was being
created as we spoke. Such attention to
detail is commendable. And when the de-
velopers are finally satisfied, a Ver. 1.5
(as well as the new manual) will be re-
leased and distributed to all registered
users — an excellent support policy.

As it stands, "Draw it again Sam..."
though not perfect, is both innovative
and well constructed. Soon, it may well
be good enough to merit that fifth
mouse. — Carlos Domingo Martinez

HEWLETT-PACKARD COLORPRO GRAPHICS PLOTTER



List Price: \$1295;
Graphic Enhancement
Cartridge \$150.
Manufactured by
Hewlett-Packard,
16399 W. Bernardo
Drive, San Diego, CA
92127-1899.
(800) 538-8787; CA
(408) 738-4133
(orders); (619) 487-
4100 (technical
support). Hardware
for all Macintosh
systems. Requires
driver software not
included with the
plotter itself.

Color printing is one of the few items
from early Macintosh wish lists that
hasn't really been satisfied yet. Rumors
of color laser printers abound, but for the
moment, people are either making the
best of black and white or using a profes-
sional printing process to add color. Al-
though plotters are used extensively by
engineers and architects, few people
think of them when considering printers

for the Mac. Plotters are limited, but still
have many practical applications.

Hewlett-Packard, one of the most re-
spected names in the plotter business,
produces a small, desktop flatbed unit
called the ColorPro Graphics Plotter.
The ColorPro is an eight-pen plotter not
much larger than an ImageWriter I. It
connects to the Mac through either the



modem port or printer port and gener-
ates high quality color output, especially
with graphically oriented material such
as charts and graphs, or detailed techni-
cal drawings. The ColorPro prints either
to a special high-gloss paper or to trans-
parency film (starter packets of both are
included with the machine) for the cre-
ation of slides or overhead transparen-
cies.

The ColorPro is quite simple to set up.
You just connect the cable to the Macin-
tosh, attach the power supply and turn it
on, then load the pens and paper. The
only thing that might have to be adjusted
is a set of DIP switches at the back of the
plotter. The plotter is initially set for US
standard paper sizes, but can be adjusted
to handle European metric sizes as well.
If you want to use A4 paper instead of
normal letter size, you will have to
change one of the switches, but this is
easy to do. It's clearly marked US on one
side and A4 on the other.

The pens fit into a small plastic carou-
sel that then drops into a space at the
front of the plotter. The ColorPro ro-
tates the carousel to select pens of differ-
ent colors. The carousel has slots for up
to eight pens. Each slot has a small rub-
ber base for the pen tip so the pens don't
dry or leak out when they are in the car-
ousel. Still, they should be removed,
capped and stored when not in use.

Paper is loaded into a small tray with
markings to help you align it properly.
Once the paper is situated in the correct
position, you press the Load button on
the control panel. The ColorPro grabs
the paper with a set of rollers, runs the
page very quickly through the machine
once to make sure it is properly placed,
then stops and is ready to use.

QUICK CLICKS

At this point the limitations of the plotter become apparent. First, you can't just load an *Excel* chart and plot it. The ColorPro requires driver software that doesn't come with the machine, and is supplied standard only with certain types of applications. High-powered design programs usually have a driver built in for the HPGL (Hewlett-Packard) standard, but you won't find plotter software in most business applications. There are third-party drivers available that let you plot from most Macintosh applications, but that is another purchase, separate from the machine.

The second serious drawback with plotters in general is that they are limited to resident fonts for the printing of text. Forget all the careful formatting you did to get a graph's labels just the way you want them: the ColorPro has some specialized character sets if you buy the Graphics Enhancement Cartridge, but they are not the same as Macintosh fonts. In fact you have to program the plotter yourself in BASIC to get access to them. The manual explains briefly how to access the plotter in BASIC, but the explanations don't include instructions for Macintosh.

The ColorPro is a nifty little gadget for color printing, if you have software that can use it and you don't mind the limited text output. The final results, whether printed on paper or transparency film, are stunning: extremely accurate, finely detailed and brilliantly colored. The ColorPro is not exactly a wish come true, but does answer color printing needs for presentation graphics, and the price is quite affordable. — MDW


ICON-It!



List Price: \$79.95.
Published by Olduvai Software, 7520 Red Rd., Ste. A, South Miami, FL 33143, (305) 665-4665; (800) 822-0772, orders only. Version 1.0 reviewed. Requires System 4.0 or later. Runs on Mac II. Not copy protected.

For some people, there can never be too many icons. Lots of programs have added their own icons — the tools palettes common in painting, drawing and page layout programs consist of icons. There was even an experimental version of *MacWrite* that added an icon bar that contained icons for the most common

FROM THE DUBL-CLICK COLLECTION



MacUser gave *WetPaint* 5 mice (Sept. 1987)

Copy pictures directly from paint files using *WetPaint*'s ArtRoundup D.A.

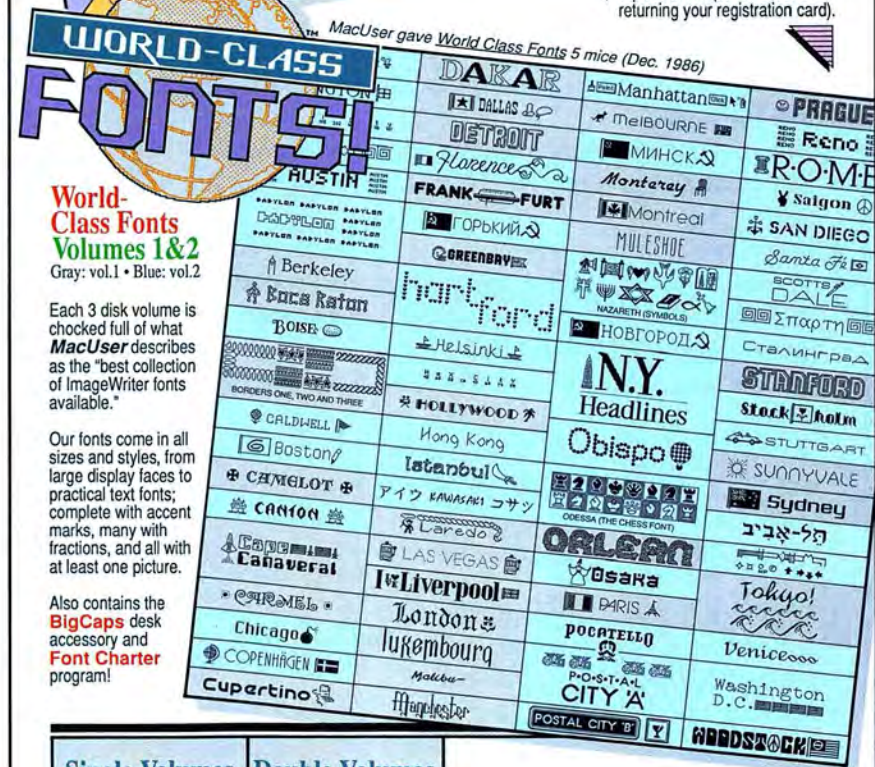
WetPaint CLASSIC CLIP-ART

WetPaint Volumes 1&2
Violet: vol.1 • Orange: vol.2

Each 3 disk volume of *WetPaint* contains an extensive collection of useful pictures, icons, borders, maps and patterns—designed for both home and business use.

WetPaint comes in FullPaint format (can be read by MacPaint, SuperPaint, etc.).

WetPaint is also available in PictureBase format for an additional \$15 per volume (order direct when returning your registration card).



MacUser gave *World-Class Fonts* 5 mice (Dec. 1986)

World-Class Fonts Volumes 1&2
Gray: vol.1 • Blue: vol.2

Each 3 disk volume is chocked full of what *MacUser* describes as the "best collection of ImageWriter fonts available."

Our fonts come in all sizes and styles, from large display faces to practical text fonts; complete with accent marks, many with fractions, and all with at least one picture.

Also contains the BigCaps desk accessory and Font Charter program!

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DETROIT	МИНСКАЯ	ROME
FLORANCE	Monterey	Salgon
FRANKFURT	Montreal	SAN DIEGO
ГОРЬКИЙ	MULESHOE	Santa Fe
GREENBAY	NAZARETH (SYMBOLS)	SCOTT'S DALE
Berkeley	HOBBOPOL	ΣΠΑΡΤΗ
Boca Raton	hankford	СТАВАНГРА
BOISE	Helsinki	STANFORD
BORDERS ONE, TWO AND THREE	HOLLYWOOD	Stockholm
CALDWELL	Hong Kong	STUTTGART
Boston	Istanbul	SUNNYVALE
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QUICK CLICKS

menu choices directly below the menu bar. The only problem in those cases was that you were stuck with what the program gave you. Sometimes you could move the iconic collections and sometimes you couldn't. Sometimes you could make them go away and sometimes you couldn't. But you could never, except for one or two very restricted cases (usually involving patterns), put whatever icons that did whatever you wanted in them.



Kiss those days goodbye. If you're into icons, *Icon-It!* is a must. This simple two-part program lets you create icon bars that contain anything you want (within very liberal limits), make them whatever size you want, look like whatever you want and move freely. You can have multiple sets in a program and you can decide whether or not your sets appear when you launch the program.

The first part of the program is an INIT file that you simply put into your System folder. The next time you restart your Mac it will be loaded and ready for use. The second, and more visible part of the package, is a desk accessory which you install in the usual way. The DA is used to both open already built icon bars and open the editor where you can create new bars and modify existing bars. The DA is simple and nearly foolproof. Plus there's a short, but complete and well-written manual and reasonable on-screen help.

The icon bar editor can be a bit intimidating at first glance, but it works smoothly and intuitively. There are two parts to the editor. The first is where you create the outline of your menu bar. This is where you select how many icons will be on the bar, and how big each box will be. As you enter values, the empty bar you are creating appears, so you get immediate feedback and can make any adjustments without leaving the editor.

After you are satisfied with your bar, click on a box and then on ICON EDIT to go to the Function Editor. Here you draw your icon in the FatBits-like editing window and assign the functions. Icons can simply replace menu choices, including individual fonts and DAs. You can

QUICK CLICKS

assign a menu choice by the actual name in the menu or by position (for example, the third font from the top). Icons can also send key commands to launch macros (such as those created by *Tempo*).

Version 1.0 comes with 47 templates for icon bars, for almost all of the most popular programs. Installing any of these is a simple matter. And even if they're not quite what you're looking for, they're easily edited. Also included on the disk is *FKEY Bar*, which lets you access your FKEYs iconically and a small application to let you configure those few programs that disable their menus whenever a DA (like the Editor) is open.

A couple of things keep this program from being perfect. One is that as of press time, it is *MultiFinder*-hostile. An upgrade, which should be available as you read this, promises to fix that. The other minor problem, which may be a *System* problem as much as an *Icon-It!* problem, is poor interaction with screen blankers such as *Pyro!*. If a screen blanker takes over, it leaves your icon bars solid black when it leaves. About all you can do is blindly click at the left side to close the bar and then reopen it. No harm is done. And some users have complained that the bars must be horizontal. A version that will allow vertical bars is also promised.

Overall, this slick product should satisfy anyone's needs for icons. — SB

LPA MACPROLOG



List Price: \$495.

Published by Logic Programming Associates, Studio 4, The Royal Victoria Patriotic Building, Trinity Road, London SW183SX, England.

Distributed by Programming Logic Systems, 31 Crescent Dr., Milford, CT 06460. (203) 877-7988. Requires Mac Plus, SE or Mac II. Not copy protected.

Last summer, when I reviewed several Prolog implementations on the Macintosh, I gave *LPA MacProlog* from the UK-based Logic Programming Associates a negative evaluation. Version 1.0 was buggy, the documentation was poor and the product was confusing.

The company recently released version 2.0 of their product and I'm glad to say that things are looking up. They're not

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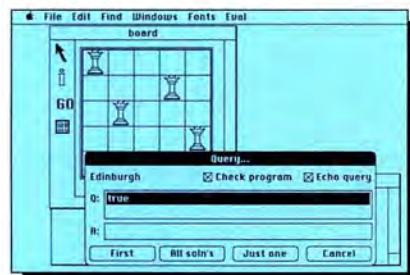
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QUICK CLICKS

completely where they need to be yet, but they've made great strides. Gone are the bugs that plagued version 1.0. The documentation is not only much improved, it borders on being good. And the developers have simplified somewhat the mixing of Prolog syntaxes that they have always viewed as one of their strengths.



The "Wizard Edition" of *LPA MacProlog* remains far and away the most expensive Prolog for the Mac at \$495. (There's also a Student Edition that costs only \$200, but it doesn't include the optimizing compiler or the Pascal and C modules.) The Wizard Edition includes the incremental compiler plus add-ons that were previously optional including: an optimizing compiler; a graphics environment package; C and Pascal submodules that accept outside calls for those languages. On the other hand, it's the only compiled Prolog for the Mac, and if Prolog is your language of choice and you want to develop high-speed stand-alone applications, *LPA MacProlog* is about your only choice.

Version 2.0 comes with two separate manuals. It really needs three, but the two here are a marked improvement over the documentation accompanying the earlier release. One manual is called, mysteriously enough, *LPA MacProlog Environment Guide*. It turns out to be what most people would call a user guide. As such, it does a more than adequate job of introducing you to the programming environment, including getting the program started, using its complex of windows, dealing with errors, debugging and a few other helpful topics. It contains two examples and if you work through them step by step, you'll have a pretty good feel for how the program works. But be warned: You cannot expect to work through them without a knowledge of Prolog. (The documentation agrees with this assessment.)

The only thing I found obscure in the documentation was how to make use of the very powerful graphics library. I could not find a step-by-step explanation of the process anywhere, a fact compli-


QUICK CLICKS

cated by the presence of something called a "Call Graph," which has many similarities to graphics use and muddies the waters somewhat. But I was finally able to figure it out and once I did, I was rewarded with one of the most powerful and conceptual graphics tools I've seen for the Mac. High marks in that department.

LPA MacProlog windows have associated with them a special dialog called Window Details where you can change the mode of the window. For example, to create a Prolog application, you can set up the window to be interpreted until you're ready to compile the code, then compile it to be sure it works just by changing the mode of the window and recompiling. Finally, if you want to use the optimizing compiler for added speed (assuming you have purchased it), you can change the mode to "Optimised" and *LPA MacProlog* zings through your code and creates a version that runs quite quickly.

Creating new windows and menus from within the language is quite easy, elegant and very Macintosh compatible. Routine names are almost 100 percent compatible with the Macintosh Toolbox call names, making development easier than with other Mac-based Prologs that require you to define new predicates for such operations.

Besides the slight documentation deficiencies noted earlier, the only other criticism I have of version 2.0 of *LPA MacProlog* is that some of the menu choices remain non-standard. For example, opening a new window *feels* like it should be on the File menu, but it's on a special Windows menu. Since the program first comes up with only a default output window into which you cannot type, this is a bit bewildering until you get accustomed to it. It is, however, logical enough. I also wish the developers had found a slightly less technical name for the "Eval" menu because it's really here that all of the program operations are stored.

LPA MacProlog is still the highest-priced Prolog for the Mac, but justifiably so given their higher-level Toolbox access and the new "goodies." *LPA MacProlog* could rival *AATS Prolog* as my Prolog of choice — and recommendation — on the Macintosh. With a bit more work on the documentation and a little sprucing of the edges, it could rival some of my favorite Prolog programming environments on other pieces of hardware, including high-end workstations. Kudos to LPA for upgrading their language. The product now deserves four mice. — *Dan Shafer* 



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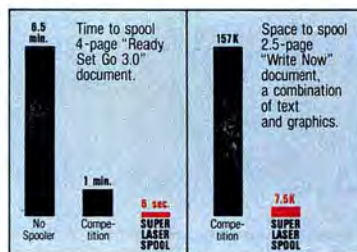
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COMPILED BY H.D. PLANT

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4TH DIMENSION



Here are some handy keyboard control tips.

In the User data entry environment:

Cursor key up — returns the cursor to the beginning of the line.

Cursor key down — returns the cursor to the end of the line.

Cursor key left — moves the cursor one character at a time to the left.

Cursor key right — moves the cursor one character at a time to the right.

In the standard selection window:

Cursor key up — scrolls the selection up.

Cursor key down — scrolls the selection down.

Cursor key left or right — returns to the first selection.

Return key — enters choice, but does not update file.

Enter key — updates file and returns to the output data window.

COMMAND-PERIOD displays the data output window.

CLYDE KANEHIRO
HONOLULU, HI

ANCIENT ART OF WAR



The computer uses a special formation, not normally available to you, when it storms forts. Here's how you can take advantage of this special formation also.

Select FORMATIONS from the Special menu. Change the "C" formation (or another

one that you never use) in the following manner: Put seven archers as far forward on the front line as possible, and seven barbarians as far back in a line as possible. What this formation achieves is simple. It puts the archers so close that they're deadly, and the nimble barbarians far enough away that they have an easier time dodging enemy arrows. At least half the enemy arrows will be aimed at the barbarians while all your arrows will be aimed at the archers on the wall.

One warning: Do not use this formation in any other type of combat as it leaves the archers completely vulnerable, with no way for the barbarians to support them in time.

JONATHAN C. HUEFNER
PROVO, UT

LASERWRITER

[Two readers sent in the same tip on the same day. Therefore, each will get a \$25 check.]



A while back we told you how to stop your LaserWriter from printing a page each time it's started. That involved sending PostScript code to the printer and was permanent, at least until you sent other code to restore the startup page. Here's a way to avoid the startup page on a temporary basis. *[This one is so simple, I'm surprised it took this long for it to be discovered. — HDP]* All you do is pull the paper tray out an inch or so (the distance isn't critical) when you start the LaserWriter. When the green light stops flashing, indicating the printer is warmed up and ready to go, push the tray back in. That's it.

SAMIR A. JOGLEKAR
SILVER SPRINGS, MD
and
PERRY KOENIG
DUNDEE, IL

WORD 3.01



If you're fortunate enough to have Apple's Extended Keyboard, Help is just a keystroke away. In fact, all you need do is press the key labeled "help." It's right under the F13 key. When you press it, a question mark appears. That's your cursor. Move it to whatever you want explained, including menu choices, and click for an explanation.

MATTHEW MICHALSKI
ANJOU, QUEBEC



To use the serial printer driver with a 12- or 15-pitch printer, you must set the line spacing for all paragraphs or the pagination will be incorrect. When you create a new document, first go to the FORMAT PARAGRAPH dialog box and set the line spacing to 12 points (instead of the default setting which is "auto"). If you already have an existing document, select the entire

text before doing the previous step. Twelve is the proper setting for the common typewriter single spacing of 6 lines per inch. If you want some other spacing, set a value of 72 divided by the number of lines per inch. This works with versions 3.01 and higher.

A. BRUCE JACOBS
FARGO, ND



If you paste an object-oriented graphic (from MacDraw, MacDraft, etc.) into Word, and the graphic's rightmost element is a vertical line, the line will not be successfully transferred. To get the line to appear, place a nonprinting character (like a space) just to the right of the line. The character doesn't show up when printing, but Word no longer thinks that the line is the rightmost object and thus allows the entire drawing to be pasted.

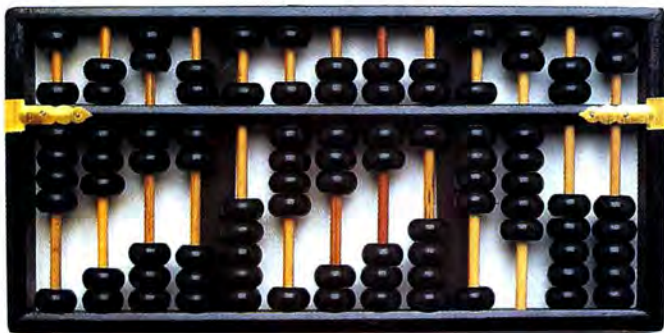
RICHARD D. GURNEY
CHEVY CHASE, MD

WORD 3.01

The dialog box shows a list of styles with 'Normal' selected. Below the list, the 'Style' is set to 'Graphic' and 'Normal + Hidden'. The 'Next Style' is blank and 'Based on' is 'Normal'. Buttons for OK, Cancel, Apply, Set Default, and Define are on the right.

Set up a special Graphics style, being sure to check the Hidden box. This will let you scroll around and edit much faster. Make sure that your Preferences have SHOW HIDDEN TEXT set to OFF. When you're ready to print or repaginate, either set SHOW HIDDEN TEXT ON or redefine the Graphics style by cancelling the Hidden characteristic.

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Here's how to make better use of the Print Merge capability. When typing a header record with corresponding data records, you're required to separate field names with commas or tabs. If you accidentally omit a comma (or tab) between fields in a data record, you get the "Missing Comma in Data Record!" error message. However the program doesn't tell you *where* you omitted the comma. This can be very disheartening when handling large quantities of data records. You're faced with the tedious task of carefully going over each data record to be sure it has the correct number of commas (or tabs).

One solution is to count the number of commas in the header record (for example, seven commas) and then use the CHANGE command (COMMAND-H) to systematically isolate the data record that is missing a comma. To do this enter a comma into both the Find What box and the Change To box. Then select sections of data records and start searching. *Word* counts the number of changes it makes and puts that number in the lower left corner. If the number of changes is not evenly divisible by the number of commas in the header record (in this case, seven), then you know that the defective record is somewhere in the selection. If the number is evenly divisible by the number of commas, you move on and select another section. Continue this process until you narrow down the data records sufficiently to isolate the one (or more) with missing commas.

BURNET D. BROWN
ENCINO, CA



Even though *Word* 3.01 is much faster than earlier versions at redrawing the screen, it can

take many long seconds to redraw a complex graphic, especially one that has had smoothing activated for its curves. The best way to avoid this problem during a long editing session is to create a special Graphics style for each graphic and include Hidden as one of its characteristics. Be sure that your Preferences setting has SHOW HIDDEN TEXT set to OFF. Now you can quickly scroll through and edit text in the document. Just remember to redefine your Graphics style by canceling the Hidden characteristic before repaginating or printing.

RONALD D. HATHCOCK
PROVO, UT



Here are some good uses of the numeric keypad for SE and Mac II users:

/ Repeats the last thing you did. This is similar to COMMAND-/, but easier.

* Scrolls down one line when pressed and released or continuously when held down.

+ Scrolls up one line when pressed and released or continuously when held down.

- Extends the selection to the next occurrence of any item you enter (characters; paragraphs; periods; # signs for numeric entries; bullets (• — Option 8).

= Finds the next Search Item, even if the Find dialog has been cancelled.

0 returns the cursor to its last three locations, one for each press.

5 returns to the regular screen from Page Preview.

BILL JASTRAM
TUALATIN, OR

MACWRITE 4.6

When Apple fixed *MacWrite* to work on the Mac II, they added a few keyboard commands. The asterisk on the numeric keypad is an aid

when highlighting characters and words. If you select a few characters with the mouse and discover you missed a letter or two, the asterisk key will extend the selection one character for each press. Rapidly add to the selection by holding the asterisk key down. COMMAND-* (from the numeric keypad) selects the whole line from the position of the cursor to the end of the line. OPTION-* selects one word at a time. The + key causes the selection to be to the left of the cursor rather than the normal to the right. The = and / keys do unpredictable flip-flops of highlighting all of the line above or below, up to the point directly above or below the cursor.

MICHAEL LANGTHORNE
SOUTH BEND, IN

EXCEL



Here are three handy Command key equivalents not listed in the manual:

1. To select all the cells of a worksheet, type COMMAND-A. This selects all the cells and moves the cursor to the top cell of the current column.

2. To close an active (selected) window (worksheet, mac-

ro sheet or chart), press COMMAND-W. If you've changed anything, you'll be asked if you want to save changes.

3. Print the current date (or at least what your Mac thinks the current date is) in any cell by typing COMMAND-HYPHEN (-).

NICK HARALAMPOPOULOS
KOZANI, GREECE



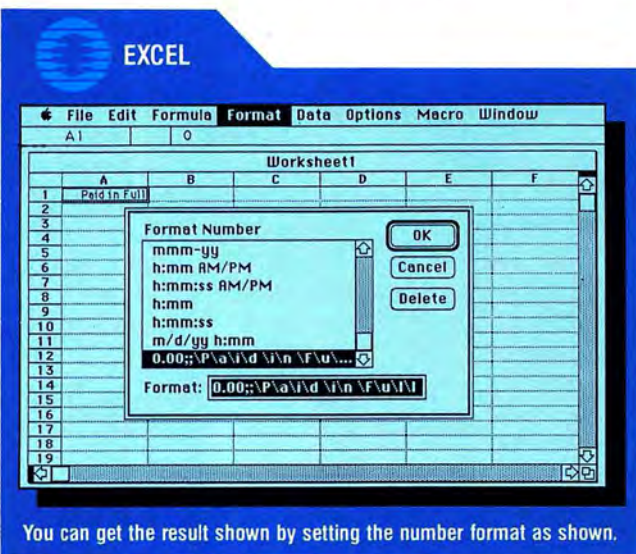
If you want a blank or a zero to show in a worksheet when the value is 0, you have to put either a space or a 0 after the second semicolon in the number format dialog box. You can also put a text string there. For example, you might want to display "Paid in Full" or "-0-" if the actual value is 0). To do this, just type the string after the second semicolon, prefaced and separated by back slashes (\—\0\—). The same result could be achieved with an if-then statement, but this way is more elegant.

BRAD FARRAR
FT. WORTH, TX

PAGEMAKER



To gain some space on the smaller SE and Plus screens, hide the guides and rulers. To



You can get the result shown by setting the number format as shown.

NOW THERE'S 3+ FOR MACINTOSH...AND ONE HALF OF CORPORATE AMERICA CAN TALK TO THE OTHER HALF.

A recent study* indicates the rapidly growing acceptance of the Macintosh by the business world.

Yet this is of little value to Corporate America if Macintosh users cannot communicate with and share the resources of existing IBM PCs, Personal System/2s and IBM PC compatibles.

That's why—because of 3Com's continuing commitment to total networking encompassing all standards, architectures and platforms—we've developed 3+ for Macintosh.

3+ for Macintosh is part of the 3Com 3+ family of network system software, Corporate America's most comprehensive, productive and popular networking system software.

While 3+ for Macintosh adheres to the new Macintosh standards, it's also the first operating software to integrate both Apple and IBM networking standards on the same server.

Meaning that both Macintosh and PC users can share and access files from each other's directories or folders when using programs such as Lotus 1-2-3, Microsoft Word, Microsoft Excel and Aldus PageMaker.

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Macintosh users can access files from PC users' directories.

This means they can share the resources of servers and printers and enjoy the benefit of print spooling.

And best of all, workgroup members can communicate via the most sophisticated and productive electronic mail in the networking business.

3Com 3+ electronic mail gives workgroup members communication with other distant workgroups, remote access to the network and connectivity to MCI Mail and DISOSS systems via gateways.

There is no better way for Corporate America to connect its installed base of PCs and Personal System/2s to its newly acquired Macintoshes than with 3+ for Macintosh.

Because 3+ for Macintosh is part of the 3Com 3+ family of network system software.

And there is no better network software.

For your nearest 3Com dealer, call 1-800-NET-3Com.

PC users can access and share files from Macintosh users' folders.



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navigate through your documents, use COMMAND-TAB to move forward, COMMAND-SHIFT-TAB to move backward and COMMAND-G to go to a specific page. Select the hand tool and OPTION-CLICK with it to move around the page.

BRIAN GINN
LOUISVILLE, KY

FINDER



The quickest and easiest way to erase a disk is to copy a blank disk over it. To do this, just insert a blank, formatted disk in a drive and drag its icon onto that of the disk you want to erase. You'll usually save a minute or so over using the Special menu's ERASE DISK command.

TIM EVANS
MERCED, CA

HYPERCARD



I dislike Monaco 9 — I think it's the least attractive of Apple's screen fonts. And *HyperCard* uses it in its script window. Luckily, the much more readable Courier 10 is the same size, and the following patch (use *Fedit Plus* or *MacTools* to apply it) causes *HyperCard* to use Courier 10 in scripts.

Change: 3F3C 0004 A887
3F3C 0009

To: 3F3C 0016 A887
3F3C 000A

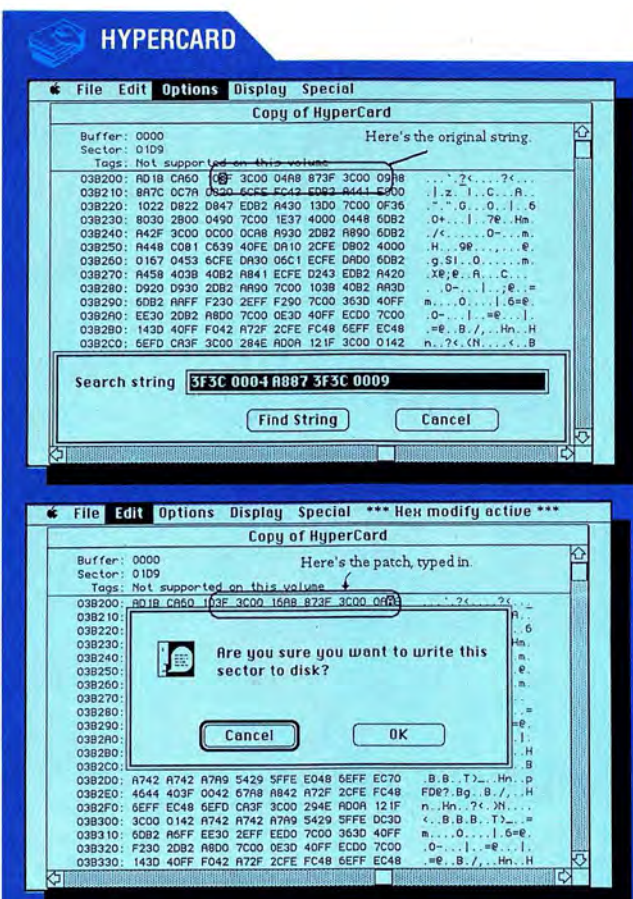
DAVID DUNHAM
GOLETA, CA



It's easy to show the time in any stack. Start by creating a field in the background called Time. Then add this short script to the existing background script, if any.

```
on idle
  put the time into field "Time"
pass idle
end idle
```

That's all it takes. If you want to add this feature to a single card rather than to all



Patching programs is simple, even if you have never done it before. You'll need either *Fedit Plus* or *MacTools*. And be sure you always patch a copy of your program; never work on master copies.

Start by opening the program you are going to use to apply the patch. In this example, that's *Fedit Plus*. Then open the program to be patched from using the patching program.

Now go to the patching program's hexadecimal search command and type in the string that follows the word "Change:". You can omit or leave in the spaces, but be careful to get the rest exactly as shown. When the program finds the string, activate its hexadecimal modification mode (if it isn't already on) and replace the string you just found with the string that follows the word "To:". Be careful, as errors could cause bombs.

Close your patching program, saving whenever asked to. It's as simple as that. You have hacked a program.

the cards of a background, simply create a card field named "Time." The script should now be added to the card script, changing the second line to

```
put the time into card field "Time".
```

ROBERT L. HURT
LOS ANGELES, CA



HyperCard stacks can be real memory hogs, especially if

you modify them occasionally. The *HyperCard* manual suggests you look at the amount of free space in the stack by selecting STACK INFO from the Options menu. If there is a lot of free space, you can reclaim it by selecting COMPACT STACK from the File menu. If you forget to do this, your stack can grow to twice its normal size.

One way of having *HyperCard* take care of its own

memory is to add a short script to every stack you use and frequently modify. Start by choosing the Authoring level from the home stack. Then go to the desired stack and choose STACK INFO from the Options menu. Click on the Script button and add the following script:

```
on closeStack
  get the freeSize of this stack
  if it > 1024*10 then do-
    Menu Compact Stack
  end closeStack
```

This script will automatically compact the stack if you exit it and it has more than 10K (1024 = 1K) of free memory. If there is already a script for this stack just add the new part at the end, and if there is already an "on closeStack" script, just add the two lines before the "end closeStack."

ROBERT L. HURT
LOS ANGELES, CA



HyperCard uses the default (application) font to label icons as well as in the message window. It's also used as the default font for the text tool and new fields. For all of these uses, except icons, I prefer New York 12. Icons look much better labelled with Geneva 9 (the Home card mixes icons and pictures). To make *HyperCard* use your favorite font as its default font, change your application font using any of the several excellent public domain and low-cost shareware programs that will do this. Lofty Becker has written a DA to do this and both cdev and FKEY versions are available. To set the icon font to Geneva 9 you'll need to make the following changes using *Fedit Plus* or *MacTools*.

Change: 6720 3F2D F31E
To: 6720 3F3C 0003

The final 0003 is what sets Geneva.

DAVID DUNHAM
GOLETA, CA



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Once you try an accelerated SE, you won't want to go back. Prodigy SE™ by Levco gives you the highest performance, true Mac™ II and SE compatibility, and *confidence* that your system will expand properly. Here's how:

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The Prodigy SE gives you the 32-bit 68020 running at 16MHz, with fast, 32-bit memory. Like the Mac II. Not the slower, 16-bit memory on the SE motherboard that some accelerators use.

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3rd Annual Editors' Choice Awards

WELL, IT'S THAT TIME AGAIN. WHAT time, you may ask? Time for our third annual Editors' Choice Awards. Long-time (a year is one awful long time in this industry) readers will recall that these awards honor the best new Mac products of 1987 (they're more like Oscars than Emmies).

The first two editions of these awards referred to them in places as software awards. That was not meant to slight the hardware side of the community, but simply to reflect the reality of the products we were evaluating. Aside from the basic Mac, there just wasn't much hardware. And despite what we called the awards, statues did go to deserving hardware anyway.

This year is different. There's lots of hardware and, in fact, our nearly unanimous choice as product of the year comes from the hardware side. That's the Macintosh II. It's not only (in the opinion of major IBM-oriented magazines as well as ours) the most powerful personal computer on the market; it also made the Mac a "real" machine in the eyes of many large volume buyers. While the bulk of Mac sales are still SEs, it's the Mac



II that frequently opens the door.

These awards are more than prizes for products. They're our way of thanking all those who have produced these wonderful products — the programmers, designers, engineers, users, financiers, dealers and Apple. Without any one of them, none of this would have been possible.

You'll notice we've declined to make awards in two significant categories: spreadsheets and word processors. In both cases we felt there was no worthy new product. *Trapeze*, while still not a match for *Excel*, would have been a hands-down winner in the spreadsheet category (where we think it belongs), except that its publisher (Data Tailor) insists it's not a spreadsheet. If you need a spreadsheet and for some reason don't care for *Excel*, do look at *Trapeze*. In the word processing category we were influenced by the past and future. What there was just wasn't good enough.

The winners will receive their statues at a gala awards ceremony and dinner on Friday, January 15th, during the San Francisco Macworld Expo. And now for the winners.

BY THE EDITORS OF MACUSER

THE EDITORS' CHOICE AWARDS FOR 1987

THE BEST OF 1987 IN BRIEF

MOST SIGNIFICANT MAC PRODUCT (1984-1987): *MacPaint* (Claris/Apple)

BEST NEW PRODUCT: Mac II (Apple)

BEST NEW DESKTOP PUBLISHING PROGRAM: *PageMaker 2.0a* (Aldus)

BEST NEW TELECOMMUNICATIONS PROGRAM: *Red Ryder 10* (Freesoft)

BEST NEW PERSONAL FINANCE PROGRAM: *Tax Planner* (Softview)

BEST NEW GRAPHICS PROGRAM: *SuperPaint* (Silicon Beach)

BEST NEW DESKTOP PRESENTATION PRODUCT: *PowerPoint* (Microsoft)

BEST NEW BUSINESS ACCOUNTING PROGRAM: *Plains and Simple* (Great Plains)

BEST NEW SCIENTIFIC/ENGINEERING PROGRAM: *MacSpin 2.0* (D²)

BEST NEW CAD/CAM PROGRAM: *MGMStation* (Micro CAD/CAM)

BEST NEW NETWORKING SOFTWARE: *TOPS* (Tops)

BEST NEW NETWORKING HARDWARE: PhoneNET (Farallon)

BEST NEW CREATIVE ARTS PROGRAM: *VideoWorks II* (MacroMind/Broderbund)

BEST NEW RELATIONAL DBMS: *4th Dimension* (Acius)

BEST NEW DATA MANAGER: *Record Holder 2.0* (Software Discoveries)

BEST NEW SPREADSHEET: None

BEST NEW WORD PROCESSOR: None

BEST NEW DESKTOP COMMUNICATIONS PACKAGE: *Microsoft Mail* (Microsoft)

BEST NEW PROGRAMMING LANGUAGE FOR PROGRAMMERS: *MPW* (Apple)

BEST NEW PROGRAMMING LANGUAGE FOR THE REST OF US: *HyperTalk* (Apple)

BEST NEW UTILITY PROGRAM: *Suitcase* (Software Supply)

BEST NEW DA: *Smart Scrap and The Clipper* (Solutions)

BEST NEW SPELLING CHECKER: *WorksPlus Spell* (Lundeen)

BEST NEW EDUCATIONAL PROGRAM: *Practica Musica* (Periscope Press)

BEST NEW ENTERTAINMENT PROGRAM: *Dark Castle* (Silicon Beach)

BEST NEW HARD DISK: Jasmine 80 (Jasmine)

BEST NEW ADD-IN/ON: Spectrum Monitor and Video Card (SuperMac)

BEST NEW PRINTER: Grappler (Orange Micro)

BEST OTHER NEW HARDWARE: DaynaFile (Dayna)

MOST INNOVATIVE CONCEPT: *HyperCard* (Apple)

BEST PRODUCT UNDER \$100: *QuickKeys* (CE Software)

EDITOR-IN-CHIEF'S AWARD: *Findswell* (Working Software)

MOST SIGNIFICANT MAC PRODUCT (1984-1987)

MacPaint, from Apple (and now sold in vastly improved form by Claris) was just about everyone's first introduction to what made the Macintosh different from the bluegray mass of other micros. We all sat down and played around with the spray can and drew pictures that would have embarrassed a 4-year-old and decided we *had* to have a computer that let us indulge in electronic graffiti. Most of the wonders of the Mac interface were implicit in *MacPaint* (and its sister program, *MacWrite*). It kept users going through that first arid year when there was nothing else to run on your Mac.

BEST NEW PRODUCT OF 1987

The **Mac II** is Apple's answer to all those people who have kept insisting that the Macintosh is a "toy" computer. They may keep insisting, but the II stands as incontrovertible proof that anything *any* of those other machines (and workstations) can do, the Mac can do better.

BEST NEW DESKTOP PUBLISHING PROGRAM

Aldus' *PageMaker 2.0a* is still the best page layout program out there and continues to get better. Honorable mentions to Quark's *Xpress*, Letraset's *Ready, Set, Go!*, and, of course, *HyperCard*.

BEST NEW TELECOMMUNICATIONS PROGRAM

Red Ryder 10 from Freesoft is the first commercial appearance of the telecommunications program that won the first Eddy in this category, as shareware. Obviously, they keep doing it right. Honorable mention to *HyperCard*.

BEST NEW PERSONAL FINANCE PROGRAM

SoftView's *Tax Planner* requires their *MacInTax* (an Eddy winner

last year). Both are extremely valuable financial tools and super software. Honorable mention to **HyperCard**.

BEST NEW GRAPHICS PROGRAM

Silicon Beach's **SuperPaint** was the first of the two-level graphics programs and it's still the best. Honorable mention to **HyperCard**.

BEST NEW DESKTOP PRESENTATION PRODUCT

PowerPoint from Microsoft was the first program in this category and it's still the standard. Honorable mentions to the **ImageMaker** from Presentation Technologies and **HyperCard**.

BEST NEW BUSINESS ACCOUNTING PROGRAM

Plains and Simple from Great Plains is the best of the class. It's relatively easy (can any accounting program be truly easy?), quite powerful and has excellent support. Honorable mention to the new modules for **Insight** by Layered.

BEST NEW SCIENTIFIC/ENGINEERING PROGRAM

This is a new category this year and was won hands down by **MacSpin 2.0** from D² Software. Even those of us who think engineering has something to do with Amtrak have watched in awe as **MacSpin** does its stuff.

BEST NEW CAD/CAM PROGRAM

Another new Macintosh arena and another new awards category. Not a world-beater by workstation standards, **MGMStation** from Micro CAD/CAM is still more than good enough to take the honors here.

BEST NEW NETWORKING SOFTWARE

The best networking software should be the least-seen software.

TOPS from Tops (Formerly Centram Systems West) is both those things and more. Good stuff. Honorable mention to Apple's **AppleShare**; it's just a revision or so away from the top.

BEST NEW NETWORKING HARDWARE

PhoneNET from Farallon can't be beat for ease of installation (it uses spare wires in your phone system), sheer performance and price. It wins on all counts.

BEST NEW CREATIVE ARTS PROGRAM

This category covers a number of product types, including music. It was hard to decide what was eligible here and what wasn't, as just about everything about the Mac carries with it an obvious creative element. However, after some discussion, the editors were unanimous in awarding the Eddy to **VideoWorks II** from MacroMind (distributed by Broderbund).

Honorable mentions go to **Master Tracks Pro**, a pro-level MIDI tool from Passport Designs, **Mac Calligraphy**, Enzan-Hoshigumi/Qualitas Trading, a painting program with extraordinary abilities and packaging and, of course, **HyperCard**.

BEST NEW RELATIONAL DBMS

Although this category, unlike spreadsheets and word processors, had a lot of new players this year, one seemed to us to be the clear leader. **4th Dimension**, the powerful first product from Acius, takes the kudos. Honorable mention to **Reflex Plus** from Borland and **HyperCard**.

BEST NEW DATA MANAGER

Record Holder 2.0 from Software Discoveries is a great improvement on an already fine program. Don't let its low price fool you, there's a lot of power here. Honorable mention to **HyperCard**.

BEST NEW SPREADSHEET

None

BEST NEW WORD PROCESSOR

None

BEST NEW DESKTOP COMMUNICATIONS PACKAGE

Microsoft Mail from (surprise) Microsoft is the new incarnation of **InterMail** — a better version of an already good program. (It has replaced **inBox**, last year's winner, in the *MacUser* offices.)

BEST NEW PROGRAMMING LANGUAGE FOR PROGRAMMERS

Apple's **MPW** is rapidly becoming the standard programming environment for the Mac. Honorable mentions to the latest versions of **Lightspeed C** and **Lightspeed Pascal**, both from Think Technologies; and **ZBasic** from Zedcor.

BEST NEW PROGRAMMING LANGUAGE FOR THE REST OF US

HyperTalk, built into Apple's **HyperCard**, has made programming transparent to everyone — and helped to spawn thousands of **HyperCard** stacks (of varying degrees of usefulness) and a great book by Danny Goodman.

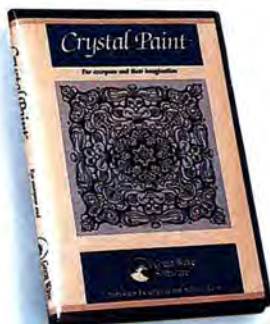
BEST NEW UTILITY PROGRAM

Suitcase from Software Supply allows total use of all your fonts and DAs. This elegant program just beat out several other worthy programs: **QuickKeys** from CE Software, **Findswell** from Working Software, **Font/DA Juggler** from AlSoft and, of course, **HyperCard**.

BEST NEW DA

Smart Scrap and **The Clipper** from Solutions, Inc. capture the feeling of what the Mac interface is all about and manage to extend it. A unanimous choice.

Overnight Delivery.



Great Wave Software ... NCP
Crystal Paint—Innovative graphics program which uses symmetry to create intricate and imaginative works of art. \$32.

KidsTime (educational, ages 3-8) 27.
 Crystal Paint (graphic symmetries) 32.
 ConcertWare+ (music composition) 39.
 Art of the Fugue (Bach), Classical Selections, Instrumental Favorites, Early Music, Popular Music. each 12.
 ConcertWare+ MIDI 79.
Greene, Inc. ... NCP
 QuickDEX (address book) 24.
Hayden Software ... CP
 MusicWorks (songs for your Mac) 29.
 Score Improvement for the SAT or ACT 58.
Ideaform ... NCP
 MacLabeler or DiskQuick 28.
Imagine ... NCP
 Smart Alarms (DA reminder system) 37.
 Multi-user Appointment Diary 99.
Infosphere ... CP
 LaserServe (network software) 64.
 ComServe (NCP, modem sharer) 124.
 MacServe (network software) 164.
Innovative Data Design ... NCP
 MacDraft 1.2A (requires 512k) 157.
Kensington
 Graphic Accents (250 illustrations) 29.
 Professional Type Fonts for Text 29.
LaserWare ... CP
 LaserWorks (requires 512k, LaserWriter) 195.
 LaserPaint (requires Mac Plus) 315.
Layered ... CP
 Notes for...Excel, Microsoft Works, PageMaker, Ready,Set,Go!3 or Word each 41.
Legisoft/Nolo Press ... NCP
 WillWriter 2.0 (prepare your own will) 30.

Letraset ... NCP
 Image Studio (image processing software) \$289.
 Ready,Set,Go! 4.0 (page layout) 289.
Linguist's Software ... NCP
 Tech (1000 different symbols) 59.
FOREIGN LANGUAGE FONTS
 SuperFrench/German/Spanish 39.
 SuperGreek New or Old Testament 79.
 MacCyrillic 39.
 MacHieroglyphics, MacKana/Basic Kanji, MacSemitic/Coptic/Devanagari, MacKorean, MacThai, SuperGreek, MacHebrew
 MacAkkadian each 59.
 MacHebrew Old Testament 79.
 MacGreek/Hebrew/Phonetics 89.
 MacChinese 115.
 LaserFrench/German/Spanish 79.
 LaserGreek or LaserHebrew 79.
 Laser Transliterator 79.
 LaserTech 79.
 LaserCyrillic 115.
Living Videotext ... NCP
 More 1.1C (outlines, windows, & tree charts) 175.
Lundeen & Associates ... NCP
 WorksPlus Spell 1.1 49.
MacroMind ... NCP
 VideoWorks II (animation tool) 119.
MacroPac International ... NCP
 101 Macros for Excel 45.
Magnum ... CP
 McPic Vol. 1 or Vol. 2 29.
 The Slide Show Magician 1.3 35.
 Natural Sound with cable & editor 89.
Micro Analyst ... NCP
 Mac Zap (recover crashed hard disks) 39.
Microlytics ... NCP
 Word Finder (synonym finder) 39.
Microsoft ... NCP
 Basic Interpreter 3.0 62.
 Chart 1.02 (42 chart styles, CP) 72.
 Multiplan 1.1 110.
 File 1.05 110.
 Basic Compiler 1.0 119.
 Fortran 2.2 (compiler) 169.
 Works 1.1 (integrated tool) 185.
 Excel 1.04 (power spreadsheet) 224.
 Word 3.01 (word processor) 239.
Migent ... NCP
 In House Accountant (small business) 119.
Miles Computing ... NCP
 Mac the Ripper Vol. 3 (req. Paint program) 27.
 Orchestra of Fonts Vol. 4 (30 different fonts) 27.
 Peoples, Places & Things Vol. 5 27.
Mindscape ... NCP
 The Perfect Score: SAT (CP) 47.
 ComicWorks (create your own comics) 47.
 GraphicWorks 1.1 (newsletters & posters) 87.

MindWork Software ... NCP
 MindWrite 1.1 \$169.
Monogram ... NCP
 Forecast (tax planning) 40.
 Dollars & Sense (home, small business) 81.
 Business Sense (full-featured) 289.
Nantucket ... NCP
 McMax (dBASE III compatible) 189.
Nashoba Systems ... NCP
 FileMaker Plus (feature-packed database) 149.
North Edge Software ... NCP
 Timeslips III (time & expense tracking) 119.
Odesta ... NCP
 Double Helix II (relational, custom menus) 349.
 Multi-User Helix (requires 512k) 429.
Olduvai Software ... NCP
 DA-Switcher (unlimited desk accessories) 26.



Fifth Generation Systems ... NCP
Fastback Mac—A Meg-a-minute. Backup from hard disk to floppies by volume, selected files, or changes only. Restores disks, too \$59.

Post ART (clip art, 3 disk set) 36.
 Icon-It! (create custom icon bars) 41.
 Read-It!TS (OCR software for ThunderScan) 99.
 Read-It! (300 dpi OCR software) 199.
OWL International ... NCP
 Guide (hypertext, free-form info) 77.
 Guide Envelope System 99.
Palantir ... CP
 MathFlash or WordPlay 26.
 MacType (typing instruction) 32.
 inTalk (communication to emulation, NCP) 99.
Passport Designs ... 90 days
 Passport MIDI Interface 95.
 Mastertracks Pro 259.
PBI Software ... NCP
 HFS Locator (DA organizer for HFS) 26.
 HD Backup (supports MFS, HFS) 28.

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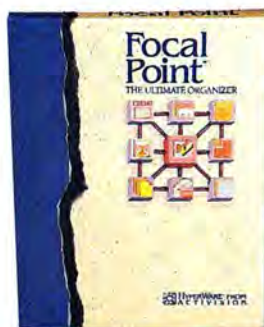


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CP denotes copy-protected.

Aba Software ... NCP	
"Draw it again, Sam"	\$95.
Activision ... NCP	
Postcards (clip-art, card stock)	20.
Business Class (atlas, req. Hypercard)	32.
Focal Point (organizer, req. Hypercard)	65.
Aegis Development ... NCP	
Doug Clapp's Word Tools	42.
Affinity Microsystems ... NCP	
AffiniFile (DA filer)	49.
Tempo (power user's macro utility)	54.
Allan Bonadio Associates ... NCP	
Expressionist (equation processor)	52.
ALSoft ... NCP	
DiskExpress (maximize disk performance)	26.
Font/DA Juggler	26.
Altsys ... NCP	
FONtastic Plus (advanced font editor)	48.
Fontographer (LaserWriter font editor)	243.



Activision ... NCP

Focal Point—Links up with Hypercard to store and retrieve day-to-day tasks, ideas, etc. Includes To-Do lists, calendars, even a phone dialer \$65.

Ann Arbor ... NCP	
FullPaint (advanced Paint program)	49.
Ashton-Tate ... NCP	
dBASE Mac 1.0 (relational, req. MacPlus)	299.
Batteries Included ... NCP	
Thunder! 1.23 (spelling checker)	31.
Battery Pak (9 desk accessories)	31.
Isgur Portfolio (portfolio management)	129.
Berkeley System Design ... NCP	
Stepping Out (requires 512k)	55.
Blyth ... NCP	
Omnis 3 Plus (database generator)	call
Omnis 3 Plus (2-5 users)	call
Omnis 3 Plus (6-10 users)	call
Bogas Productions ... NCP	
Studio Session (music creation)	57.
Country or Heavy Metal Rock Disk.	15.
Borland International ... NCP	
Turbo Pascal Tutor	46.
Numerical Methods Toolbox	65.
Sidekick 2.0 (includes MacPlan)	65.
Turbo Pascal (HFS compatible)	65.
Reflex (while supplies last)	59.
Reflex Plus (info management tool)	179.



Aba Software ... NCP

"Draw it again, Sam"—Object-oriented drawing program with ten layered drawing planes. Produce color separations or cell animation. Includes graphic library \$95.

BrainPower ... NCP	
Thinkfast (memory improvement)	23.
StatView (statistics package)	34.
Graphidex (DA graphics organizer)	65.
DesignScope (electronic circuit design)	128.
MathView Professional (num. analysis)	149.
StatView 512+ (req. external drive, 512k)	178.
Bravo Technologies ... NCP	
MacCalc (easy to use spreadsheet)	79.
Broderbund ... CP	
Jam Session (create your own tunes)	30.
Print Shop (create cards and memos)	38.
Geometry (over 350 problems!)	63.
Physics (over 300 problems)	63.
CAMDE ... NCP	
Nutricalc (diet & nutrition analysis)	49.
Nutricalc Plus (full-featured)	175.
CasadyWare ... NCP	
Fluent Fonts (two-disk set)	28.
Fluent Laser Fonts (Vols. 1-15)	each 46.
CE Software ... NCP	
Calendar Maker (create custom calendars)	27.
Disktop 3.0 (powerful DA Finder)	32.
QuickKeys (reduce mouse movements)	69.
Challenger Software ... NCP	
Mac3D (3D graphics, CAD features)	127.
Chang Labs ... NCP	
Rags to Riches Ledger	123.
Rags to Riches Payables	123.
Rags to Riches Receivables	123.
Rags to Riches Three Pak	299.
The C.A.T. (contacts, activities, time)	239.
Inventory Control	239.
Professional Billing	239.
Professional Three-Pak	389.
Retail Business 3 Pak	389.
Concept Development	
MicroKitchen Companion	29.
America Cooks: American, Chinese, French, Italian or Mexican	each 11.
Cortland ... CP	
TopDesk 2.3 (7 new desk accessories)	33.
Cricket Software ... NCP	
Pict-O-Graph (color on the Mac II)	105.
Cricket Graph (multiple windows)	124.
Cricket Draw (advanced draw capabilities)	175.
Data Tailor ... NCP	
Trapeze (spreadsheet, reqs. 512k)	159.

DataViz ... NCP	
MacLink Plus (transfer Mac/IBM data)	\$149.
Davidson ... CP	
Math Blaster! (grades 1-6)	27.
Deneba Software ... NCP	
Merriam-Webster's Thesaurus	36.
Comment (electronic Post-It notes)	59.
Canvas 1.0 (includes desk accessory)	119.
Dove Computer ... NCP	
RAMSnap (RAM Disk/Disk Cache)	22.
Dow Jones ... CP	
Straight Talk	59.
Market Manager Plus	159.
Dubl-Click Software ... NCP	
Calculator Construction Set	37.
World-Class Fonts! (both volumes)	47.
WebPaint Clip Art (both volumes)	47.
Electronic Arts ... CP	
Deluxe Music Construction Set 2.0	62.
Enabling Technologies ... NCP	
Easy3D (create solid 3D objects)	79.
Pro 3D (3D shaded modeling)	199.
Enzan-Hoshigumi USA ... NCP	
Japanese Clip Art Scroll 1 "Heaven"	59.
Japanese Clip Art Scroll 2 "Earth"	59.
MacCalligraphy (create unique designs)	115.
Fifth Generation Systems ... NCP	
FastBack Mac (powerful backup utility)	59.
1st Byte ... CP	
Mad Libs (party time)	14.
First Shapes (all about sizes & shapes)	32.
Kid Talk ("talking notebook")	32.
Math Talk (math learning tool)	32.
Smooth Talker (speech synthesis)	32.
Speller Bee (spelling learning tool)	32.
Forethought ... NCP	
Factfinder 1.1 (information organizer)	39.
FileMaker 1.0 (custom design reports)	49.
PowerPoint 1.0 (presentations)	189.
Foundation Publishing ... NCP	
Comic People (create your own characters)	26.
Comic Strip Factory (create cartoons)	45.
FWB Software ... NCP	
Hard Disk Backup	37.
Hard Disk Partition	37.
Hard Disk Util (program backup)	55.
Great Wave Software ... NCP	
TimeMasters (learn about time, ages 4+)	22.



BrainPower ... NCP

StatView 512+—Professional data analysis package. Includes multivariate and factor analyses, graphics, and more \$178.

Prime Numbers.

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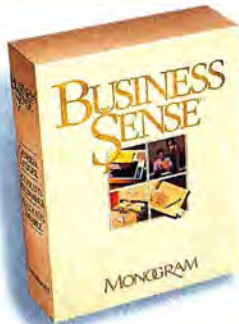
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- No charge for sales or technical support calls.

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Latest versions.



Monogram ... NCP

Business Sense—Integrated accounting modules: General Ledger, Accounts Payable, Accounts Receivable, Invoicing, Budgeting and Payroll \$289.

Personal Computer Peripherals ... NCP

HFS Backup 29.

ProVUE Development ... NCP

OverVUE 2.1 (power-packed database) ... 149.

Rubicon Publishing ... CP

Dinner At Eight-Silver Palate Bundle 51.

Satori ... NCP

BulkMailer 3.0 (mailing lists) 82.

BulkMailer Plus (up to 90,000 names) 199.

Legal Billing (attorneys to accountants) ... 379.

Legal Billing II (full trust accounting) 569.

Project Billing (architects to engineers) ... 442.

Silicon Beach Software ... NCP

Silicon Press (printer utility, 512k) 41.

SuperPaint (advanced graphics program) ... 79.

Simon & Schuster ... NCP

Mac Art Department (req. Paint program) ... 24.

Typing Tutor IV (new & improved) 35.

SoftStyle ... NCP

Epstart (Epson printer driver) 27.

Printworks (print faster & in color) 46.

Laserstart (Hewlett-Packard Laserjet) 58.

Softview ... NCP

Macinuse (time-use manager) 42.

Software Discoveries ... NCP

Record Holder Plus (data manager) 45.

Software Supply ... NCP

Suitcase (font and DA utility) 38.

PowerStation (alternative to Finder) 38.

Software Ventures ... NCP

Microphone 1.1 (includes Glue™) 119.

Solutions, Inc. ... NCP

SmartScrap & The Clipper 40.

Glue (creates "print to disk" capability) ... 40.

SuperGlue (total graphic integration) 57.

The Curator (graphic library) 81.

Springboard ... CP

Art a la Mac Volume 1 or 2 (NCP) 23.

Early Games or Easy as ABC 28.

Certificate Maker (requires 512k) 35.

Certificate Library Vol. 1 19.

SuperMac Software ... NCP

SuperSpool 3.4 45.

Diskfit (backup & restore utility) 57.

Network Diskfit (automatic back up) 205.

Sentinel (encryption) 85.

SuperLaserSpool 85.

Multi-User SuperLaserSpool 205.

Survivor Software ... NCP

MacMoney (financial planner) \$41.

Symmetry ... NCP

Acta 2.0 (outline/writing desk accessory) ... 37.

PictureBase 1.2 (clip art manager, 512k) ... 59.

Target ... NCP

Scoop (composition & layout) 299.

Think Educational ... CP

MacEdge II (math & reading) 28.

Mind Over Mac 28.

THINK Technologies ... NCP

HFS Navigator (search for buried files) ... 35.

Laserspeed (LaserWriter utility) 55.

Lightspeed Pascal 65.

Lightspeed C (top-rated C Compiler) 95.

CAPP's for Lightspeed C 49.

CAPP's for Lightspeed Pascal 49.

InBox Starter Kit (CP) 215.

InBox Personal Connection (Mac & PC) ... call

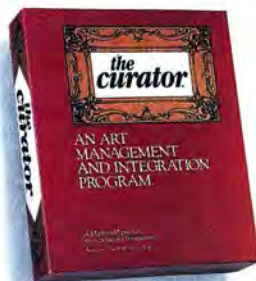
T/Maker ... NCP

ClickArt Personal Graphics 28.

ClickArt Effects 28.

ClickArt Publications 28.

ClickArt Letters Vol. 1 or 2 28.



Solutions, Inc. ... NCP

The Curator—Eliminates cutting and pasting into a scrapbook. Has a pictorial table of contents.

Accepts artwork from PICT, TIFF, and MacPaint formats \$81.

ClickArt Holidays 28.

ClickArt Business Images (updated) 28.

Christian Images 35.

Bombay, Plymouth, or Seville Laser font ... 45.

Write Now (word processor) 99.

TML Systems ... NCP

TML Source Code Library 55.

TML Database Toolkit 59.

TML Pascal (compiler, req. 512k) 59.

TOPS ... CP (formerly Centram Systems)

TOPS (file-server/LAN software) 119.

TOPS PRINT 125.

TOPS for the PC 299.

True BASIC ... NCP

PROGRAMMING LIBRARIES

True BASIC (fast, flexible, & portable) 59.

Runtime (create stand-alone applications) ... 59.

Advanced String or 3D Graphics 35.

CHIPendale 35.

EDUCATIONAL SOFTWARE

Algebra I or II, Pre-Calculus, Trigonometry,

Discrete Math, Probability, Calculus,

Arithmetic & MacFunction each 35.

TrueSTAT (statistics) 58.

Unicorn ... CP

Animal Kingdom (ages 6-12) \$27.

Decimal Dungeon (math, ages 9 and up) ... 27.

Fraction Action (arcade style math game) ... 27.

Mac Robots (pre-school program) 27.

Math Wizard (math games, ages 5-10) 27.

Read-A-Rama (reading, ages 5-8) 32.

William & Macias ... NCP

myDiskLabeler (design & print labels) 24.

myDiskLabeler w/Color (req. ImageWriter II) 32.

myDiskLabeler w/LaserWriter option 35.

216 Smart Labels (for ImageWriter) 15.

Working Software ... NCP

Lookup (90,000 word dictionary) 29.

Findswell (locate documents fast) 32.

Spellswell (spelling checker) 42.

Spellswell Legal or Medical Dictionary ... 57.

GAMES

Accolade ... CP

Hardball (baseball simulation) 23.

Activision ... CP

Championship Star League Baseball 15.

Tass Times in Tonetown 21.

Shanghai (Mah Jongg strategy) 24.

Portal (sci-fi novel) 30.

Addison-Wesley ... CP

Puppy Love (your dog will love it!) 19.

Ann Arbor

Grid Wars (3D arcade) 22.

Avalon Hill ... CP

MacPro Football (req. 512k) 29.

MacPro Football 85 Team or Season 16.

Baudville ... CP

Guitar Wizard 22.

Ted Bear's Rainy Day Games 22.

Blue Chip ... CP

Millionaire or Tycoon 35.

Squire or Baron 35.

Broderbund Software ... CP

Lode Runner (over 150 levels) 24.

Ultima III (fantasy adventure) 24.

Ancient Art of War (military strategy) 27.

Toy Shop (create working models) 31.

Bullseye ... CP

Ferrari Grand Prix (Formula One racing) ... 33.

Fokker TriPlane Flight Simulator 33.



Target Software ... NCP

Scoop—Create professional documents using this WYSIWYG desktop publishing package. Totally self-contained with paint, draw & spelling checker \$299.

Toll-free support.

Electronic Arts ... CP

Ogre (tank simulation) \$20.
 Skyfox, Seven Cities of Gold, Archon,
 Patton vs Rommel, Pinball Construction Set,
 Dr J vs Larry Bird, Scrabble each 27.
 Chessmaster 2000 29.

Epyx ... CP

Sub Battle Simulator (NCP) 24.
 Winter Games (Olympic events) 24.

Great Wave Software ... NCP

LOC (strategy game) 29.

Hayden Software ... CP

Perplexx (scrabble-type game) 24.
 Sargon III (9 levels of chess) 29.

Infinity Software ... CP

Go (4000-year-old strategy game) 22.
 Grand Slam (tennis, req. 512k) 27.



North Edge Software ... NCP

Timeslips III—Time and expense tracking with
 bill and graph generation. Over 5000 billing
 formats, and 30 graphs and charts \$119.

Infocom ... CP

Hitchhiker's Guide to the Galaxy 18.
 Leather Goddesses, Trinity, Nord & Bert,
 Ballyhoo, Bureaucracy, Stationfall,
 Lurking Horror, Plundered Hearts,
 Hollywood Hyjinx (standard) each 24.
 Spellbreaker 24.
 Classic Mystery Library (3 mysteries) 36.
 Science Fiction Classics (3 adventures) 36.
 Zork Trilogy 44.
 Invisicubes Hint Booklets (please specify) 6.

MacroMind ... NCP

Mazewars+ (play via modem or network) .. 31.

Microsoft ... CP

Flight Simulator (the Mac takes flight) 32.

Miles Computing ... CP

Harrier Strike Mission or Quintette 27.

Down Hill Racer (3D ski simulation) \$27.
 Fool's Errand (solve the puzzles) 27.
 Fool's Errand Hint Booklet 7.

Mindscape ... CP

Crossword Magic 30.
 Balance of Power (world politics) 30.
 King of Chicago (req. minimum 512E) 30.
 Shadowgate (castle adventure) 30.
 Uninvited or Deja Vu 30.

Olduvai Software ... NCP

Maze Survival (action game) 21.

PBI Software ... CP

Strategic Conquest (multi-user) 35.

Primera Software ... CP

Smash Hit Racquetball (top-rated!) 15.

Psion ... CP

Psion Chess (3D and multi-lingual) 31.

Rainbird ... CP

Pawn (text-graphics adventure) 27.

Sierra On-Line ... CP

Leisure Suit Larry (swinging single life) ... 24.
 King's Quest I, II or III 30.
 Space Quest 30.

Silicon Beach Software

Airborne! (CP, the classic!) 20.
 Enchanted Scepters (CP, over 200 scenes) 21.
 Dark Castle (NCP, arcade action) 27.
 World Builder (NCP, program creator) 41.

Simon & Schuster ... CP

Star Trek—The Kobayashi Adventure 24.

Sir-Tech ... CP

Mac Wizardry (high-rated fantasy) 35.

SPHERE, Inc. ... NCP

Tellstar II (No. & So. hemispheres, req. 512k) 15.
 GATO (submarine simulator) 26.
 Orbiter (space shuttle simulation) 26.
 Falcon (F-16 flight simulation) 27.

XOR ... NCP

NFL Challenge (be the coach!) 65.

HARDWARE

Manufacturer's minimum limited warranty
 period is listed after each company name.
 Some products in their line may have longer
 warranty periods.

NOTE: Some hardware items are available in
 either platinum or beige color. Please specify.

20 Megabyte SCSI Hard Drive 529.

45 Megabyte SCSI Hard Drive 1039.

Apricorn ... 1 year

ApriCord Mac (for Mac 512k or Mac Plus) 75.

AST Research ... 6 months

AST TurboScan (300 dpi scanner) 1389.

AST 2000 (20 Meg, 20 Meg tape) 1395.

AST TurboLaser P/S 2995.

Curtis Manufacturing ... lifetime

SURGE SUPPRESSORS

Safestrip (6 outlets) \$21.
 Diamond (6 outlets) 29.
 Emerald (6 outlets; 6 ft cord) 36.
 Sapphire (3 outlets; EMI/RFI filtered) 47.
 Ruby (6 outlets; EMI/RFI filtered; 6 ft cord) 59.

Dove Computer ... 90 days

Toolkit (clamp, torx driver & wrist strap) ... 15.
 SCSI Interface/Port 95.

MacSnap 524 (512k to 1 Meg) 175.

Diamond Snap 524S (512E to 1 Meg w/SCSI) . . 219.

MacSnap 548 (512k to 2 Meg) 399.

MacSnap 548S (512E to 2 Meg w/SCSI) .. 469.

MacSnap 2S (1 Meg to 2.5 Meg) 489.

MacSnap 4S (1 Meg to 4 Meg) 969.

MacSnap 8S (for Mac II, to 8 Meg) 1939.

MacSnap Plus 2 (MacPlus to 2 Meg) 289.

MacSnap Plus 4H (MacPlus to 4 Meg) 969.

Ergotron ... 1 year

Mouse Cleaner 360° 15.

MacTilt or MacTilt SE 69.

MacTilt (for large monitor) 89.

MacBuffer 512k 329.

MacBuffer 1024k 429.

Farallon Computing ... 1 year

PhoneNET-AppleTalk 120 9.

PhoneNET PLUS (DB-9 or DIN-8) 45.

Hayes ... 2 years

Smartcom II (communications software) .. 88.

Smartmodem 1200 299.

Smartmodem 2400 449.

MacPlus 1200 Package 399.

MacPlus 2400 Package 549.



Nantucket ... NCP

McMax—Run dBASE programs up to 4 times
 faster. Pull-down menus, an Assist mode, and
 English-like commands \$185.

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*Defective software replaced immediately. Defective hardware replaced or repaired at our discretion.

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No hidden charges.

Kensington ... 1 year

Appletalk Cable Clips or Connectors	each \$1.
External Drive Cover	8.
Mouseway (mouse tracking pad)	8.
Mouse Pocket (for your idle mouse)	8.
Mac Plus/Mac SE Cover	9.
ImageWriter II Dust Cover	9.
Printer Stand	17.
Mouse Cleaning Kit w/Mouse Pocket	17.
Disk Drive Cleaning Kit	20.
Tilt/Swivel	22.
Universal Copy Stand	23.
Polarizing Filter or Surge Suppressor	34.
Apple Security Kit	34.
Printer Muffler (80 column)	38.
Printer Muffler (132 column)	51.
Printer Muffler Stand (80 or 132 column)	25.
A-B Box (for the Mac Plus)	64.
System Saver Mac or Control Center	64.
Turbo Mouse (for the Mac Plus & SE)	83.

Koala Technologies ... 90 days

MacVision (digitizer, includes MoreVision)	175.
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Kraft Systems ... 1 year

3-Button QuickStick	39.
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Migent ... 1 year

Pocket Modem (ext. 300/1200 baud)	169.
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Mirror Technologies ... 1 year

Magnum 800 External Drive (platinum)	209.
MagNet 30x (w/cable & print spoolers)	799.
MagNet 40/40 (40 Meg, 40 Meg tape)	2139.

MSC Technologies ... lifetime

A+ Mouse (optical mouse)	79.
A+ Mouse ADB (for Mac SE & II)	89.

Nuvotech ... 1 year

EasyNet (AppleTalk network connector)	28.
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Orange Micro ... 1 year

Grappler (universal parallel interface)	69.
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Personal Computer Peripherals ... 2 years

MacBottom HD 21 Meg (SCSI)	749.
MacBottom HD 32 Meg (SCSI)	899.
MacBottom HD 45 Meg (SCSI)	1159.

Optional built-in 1200 bps modems avail. call MacBottom IHD-144 Meg (for Mac II; 1 yr.) 2195.

Practical Peripherals ... 5 years

1200 Baud External Modem	109.
2400 Baud External Modem	189.

SoftStyle ... 90 days

MacEnhancer (for plotters to printers)	159.
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Summagraphics ... 90 days

MacTablet 12" x 12"	\$379.
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Systems Control ... 2 years

MacGard (surge protection)	55.
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Thunderware ... 90 days

ThunderScan 4.0 with PowerPort	199.
Mac II Power Accessory	42.

Western Automation

DASCH RAMdisk 2000K	399.
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DISKS

Double-sided diskettes.

Sony 3 1/2" DS/DD Disks (box of 10)	18.
Fuji 3 1/2" DS/DD Disks (box of 10)	19.
MAXELI. 3 1/2" DS/DD Disks (box of 10)	20.
Verbatim 3 1/2" DS/DD Disks (box of 10)	20.
3M 3 1/2" DS/DD Disks (box of 10)	20.

Single-sided diskettes.

Sony 3 1/2" SS/DD Disks (box of 10)	13.
Fuji 3 1/2" SS/DD Disks (box of 10)	13.
MAXELL 3 1/2" SS/DD Disks (box of 10)	14.
Verbatim 3 1/2" SS/DD Disks (box of 10)	15.
3M 3 1/2" SS/DD Disks (box of 10)	15.



Dove Computer ... 90 days

MacSnap 548S—Take 2 giant steps forward: increase your memory to 2 Meg, and add a SCSI port. User installable. Req. 512E .. \$469.

INFORMATION SERVICES

CompuServe

CompuServe Information Service	24.
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Dow Jones

Dow Jones News/Retrieval Membership Kit	24.
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ACCESSORIES

Clean Image Ribbon Co.

Clean Image Ribbon Kit	12.
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Computer Coverup

External 800k Drive Cover	4.
ImageWriter II Cover	8.
Mac Plus or Mac SE Cover Set	10.

I/O Design

Available in navy or platinum.

Imageware II (ImageWriter II carry case)	49.
Macinware Plus (Mac Plus carry case)	69.
Macinware SE (Mac SE carry case)	79.

Kalmar Designs

Teakwood Roll-top Case (holds 45 disks)	14.
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Nashoba Systems ... NCP

FileMaker Plus—Database and forms management program. Performs calculations, summary reports, mail mergings, etc... \$149.

Teakwood Roll-top Case (holds 90 disks)	20.
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Teakwood Roll-top Case (holds 135 disks)	28.
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Magnum

Mouse Mover (let your mouse ride!)	14.
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Moustrak

Available in a variety of colors.

Moustrak Pad (standard 7" x 9")	8.
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Moustrak Pad (large 9" x 11")	9.
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Ribbons Unlimited

ImageWriter Ribbons	5.
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Available colors: black, blue, brown, green, orange, purple, red, yellow and silver.

Rainbow Pack (6 single color ribbons)	25.
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Four Color Ribbon (requires ImageWriter II)	11.
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Sensible Software

Quality "MacAttire" nylon dust covers	7-17.
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High Trek ImageWriter II carry case	49.
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High Trek Mac SE & ext. kybd. carry case	69.
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- Your card is not charged until we ship.
- If we must ship a partial order, we never charge freight on the shipment(s) that complete the order.
- No sales tax.
- All U.S. shipments insured; no additional charge.
- APO/FPO orders usually shipped 1st Class Mail.
- Allow 1 week for personal and company checks to clear.
- COD max. \$1000. Cash or certified check.
- 120 day limited warranty on all products.*
- To order, call us anytime Monday thru Friday 9:00 to 9:00, or Saturday 9:00 to 5:30. You can call our business offices at 603/446-7711 Monday through Friday 9:00 to 5:30.

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MSC Technologies ... lifetime

A+ Mouse—An all optical mouse with no moving parts. Lightning fast, exceptionally accurate cursor control. Includes mirror-like pad.

A+ Mouse	\$79.
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A+ Mouse ADB	\$89.
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THE EDITORS' CHOICE AWARDS FOR 1987

BEST NEW SPELLING CHECKER

Lundeen's **WorksPlus Spell** is an outstanding spelling checker with only one tiny drawback: it only works with **Microsoft Works**. Even with this limitation, we felt it was the obvious choice in this category.

BEST NEW EDUCATIONAL PROGRAM

Practica Musica from Periscope Press is a music teaching and drill program which demonstrates what the Mac can really do in the educational field — and offers new hope for the musically illiterate. Honorable mention to **HyperCard**.

BEST NEW ENTERTAINMENT PROGRAM

Dark Castle from Silicon Beach was the leader in the entertainment category this year. Although there are an increasing number of excellent game programs for the Mac, **Dark Castle** was the one with broadest appeal. Honorable mentions to **ShadowGate** from Mindscape, **Falcon** from Spectrum-Holobyte and, again, **HyperCard**.

BEST NEW HARD DISK

Jasmine's **Direct Drive 80** was the first to raise the size standard of hard disks in general, and start 20-meg hard disks on the road to extinction. Its pricing also started a welcome downward trend.

BEST NEW ADD-IN/ON

The **Spectrum Monitor and Video Card** from SuperMac was the most visible evidence of the new power of the Mac II. It just beat monitors and video cards from PCPC and E-Machines. More honorable mentions to the accelerator boards from Levco, Peak Systems and Radius and the memory upgrades from Dove.

BEST NEW PRINTER

Not actually a printer, the **Grap-**

Not-Quite-The-Eddy Awards

This special section honors several deserving products and programs that fall outside the traditional Eddy categories.

BEST VAPORWARE

In a year that saw the vaporware genre soar to unprecedented heights, numerous programs challenged for this prestigious award. Still, Ashton-Tate's **dBase Mac** fell out at the end, leaving the trophy (an uninflated balloon) to Ann Arbor's **FullWrite Professional**.

MUSCLE PACKAGING AWARD

Since all the rules are off here, these awards can go to products that arrived too late for consideration in the stodgy, traditional categories. So this hefty award goes to Odesta's **Double Helix II**, which comes in the largest, heaviest package any of us have ever seen. It seems heavier and larger than a Mac SE package (it's not, but it doesn't miss by much).

THE III JINX AWARD

The number 3 (III) continues to be unlucky (remember the Apple III and *System* version 3.0, last year's winner for worst release). Microsoft's **Word 3.0** showed what happens when you set a release date and then meet it regardless. Lots of bugs made this program the laughingstock of the Mac community and caused Microsoft to issue (with unusual speed for them) version 3.01 (much better, but still nowhere near perfect). And then there's **MacPublisher III**, whose name may be the reason it is so often overlooked (it's not at all bad).

BEST MANUAL INCLUDED WITH A PROGRAM: This one goes to the manual for Borland's **Reflex Plus**.

BEST MANUAL YOU BUY SEPARATELY: The hands-down winner is **The Complete HyperCard Handbook**, written by Danny Goodman and published by Bantam Books. It should have been bundled with **HyperCard**.

MOST COMPLEX AND INTIMIDATING MANUAL: This one goes — without discussion — to **4th Dimension**.

MOST ANNOYING PR DEVELOPMENT: Overhead projectors and transparencies. Few things are more soporific (and time-wasting) than sitting through a presentation of overhead transparencies while someone reads them to you. Perhaps these people think the press is Write-Only? Although Apple is by no means the sole perpetrator of this annoyance, they win the award as the originator.

pler, from Orange Micro, is a very smart cable. It gives new life to lots of old but still excellent printers, and allows Mac users dot matrix choices other than ImageWriters. Honorable mention to GCC's **Personal Laser Printer**.

BEST PRODUCT UNDER \$100

[This award cannot go to a winner of another category.] CE Software's **QuicKeys** lets you make your keyboard all that it can be. It could send your mouse into retirement.

BEST OTHER NEW HARDWARE

DaynaFile from Dayna is a disk drive that lets your Mac read MS-

DOS XT and AT files right off their original disks. It has everything going for it: it does what it claims to do efficiently and cost effectively.

MOST INNOVATIVE CONCEPT

HyperCard. No contest.

EDITOR-IN-CHIEF'S AWARD

Findswell from Working Software lets him actually find what's on his hard disk. Elegant, easy and fast. The Editor would be lost without it. [Executive Editor's Note: The rest of the staff heartily concurs in the Editor's choice here for obvious reasons.] ☞

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The Meeting of the Minds With Desktop *Express*™ software, the great mind in New York can see what the great mind in L.A. has been trying to say.

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Created by Dow Jones, Apple, and MCI, Desktop *Express* works with the Macintosh software programs you've come to rely on. Create a business plan complete with charts, graphs and spreadsheets. Send it to any of your associates who have Desktop *Express*. They can review the plan and even print it – all *without* the software program you used to create it. But if they do have the program, and Desktop *Express*, they can revise your document on the spot and return it to you.

For your associates who don't own a Macintosh, Desktop *Express* still delivers. Direct your documents electronically to an MCI Mail Print Center. There they will be printed on a laser printer and delivered via postal or overnight delivery.

With Desktop *Express*, your big ideas will get looked over, not overlooked. So, for the Apple Dealer in your area call 1-800-538-9696 Ext. 350.

Desktop *Express*. Now, great minds don't have to think alike to get the picture.

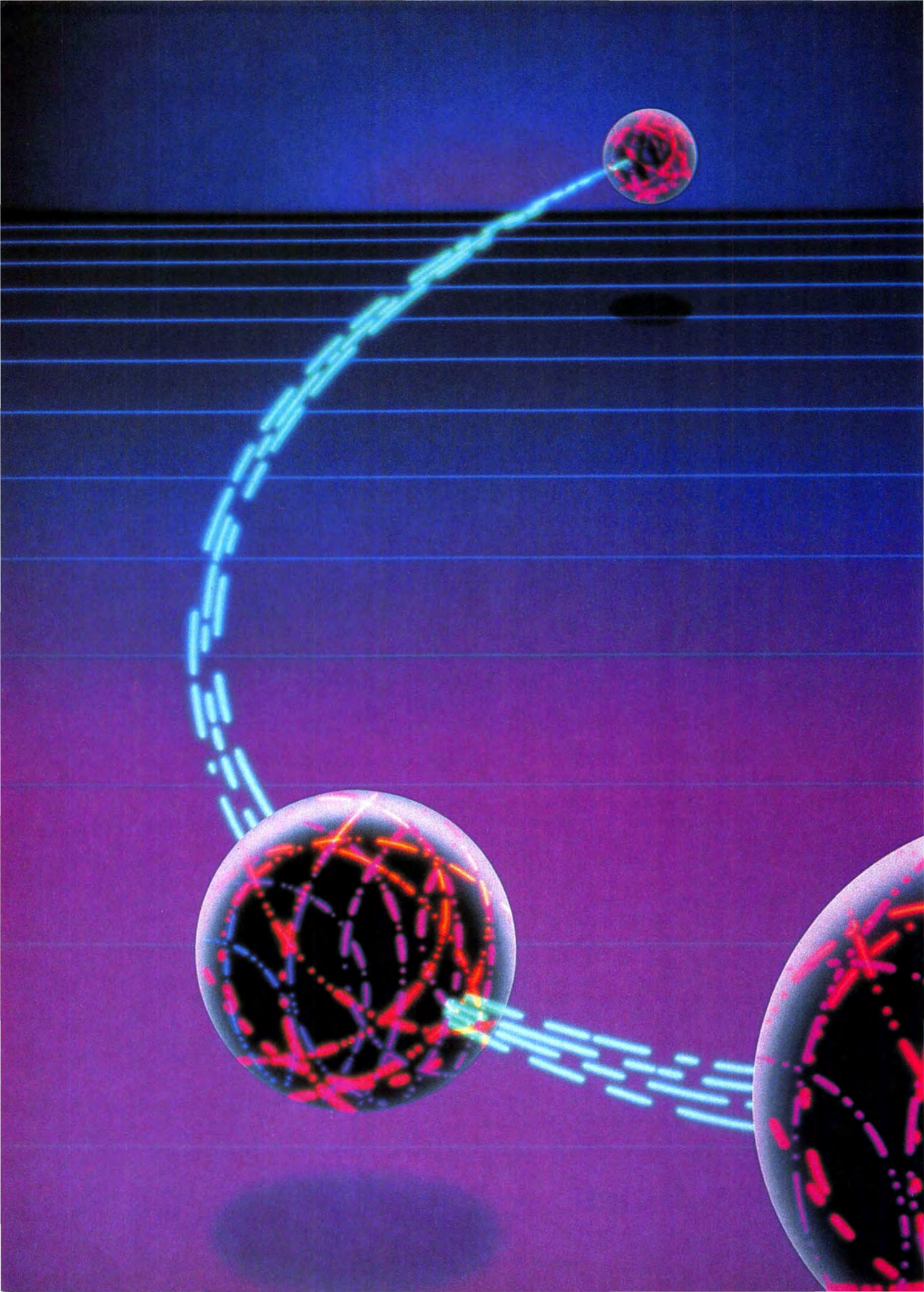
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dBase Is Loaded

In its long-awaited first at-bat, dBase Mac hits a long one — but it's caught on the warning track.

MORE THAN A YEAR LATE, DBASE MAC from Ashton-Tate has finally arrived. It enters the Macintosh data base market at a time when there's stiff competition — *4th Dimension*, *Double Helix II* and *Omnis 3 Plus* have already been adopted by a significant number of users. Is *dBase Mac* good enough to make it, to succeed against competitors that are very good themselves?

I should say at the outset that I can't think of very many good things to say about *dBase III Plus*, Ashton-Tate's best-selling MS-DOS data base management system (DBMS). Though *dBase II* (running under CP/M on an Apple II) was the first real DBMS I ever used, I don't even have nostalgic feelings for its current incarnation. The truth is that the product has been largely outdone by more recent entrants in the MS-DOS data base market, many of which are friendlier, easier to learn and use, and have better multi-user capabilities. That being the case, I approached *dBase Mac* with a great deal of trepidation, fearing that it would have many of the traits that make me dislike the MS-DOS product so intensely. I'm pleased to be able to report that it's not anywhere near as bad as I expected, although it certainly isn't perfect.

LOOKING IN FROM OUTSIDE

dBase Mac is a relational data base

management system. That means that it views data as if they were stored in two-dimensional tables (which are called data files in *dBase Mac*). It, like all relational data bases, supports storage and retrieval operations that can affect more than one table with a single action, the minimal criterion for distinguishing a DBMS from a file manager.

dBase Mac stores each data file as a single physical file. What this means is that there is a direct relationship between the name of a logical entity (a relation) and a physical entity (the file). Changing the name of the data file in the structure window is therefore a very dangerous business. The documentation warns on page 2-6 of the user's guide: "Never change the name of a data file, especially if it is related to another file. If a file's name changes, related files cannot recognize it." This is not a small problem. One of the basic ideas of a DBMS is to insulate the user from physical data storage. *dBase Mac*, like its MS-DOS cousin, is too closely tied to its physical data storage.

The remainder of the components of a *dBase Mac* setup or application are stored in a file known as a Project, which contains the structure of all data files in the project, input and output layout definitions, procedures (*dBase Mac* programs), custom menus, palettes (groups of tools used to manipulate objects within

the project) and security information. Since the data files are separate from the rest of the application, the same data files can be used by any number of different projects. Data and project files are the two major types of disk files that *dBase Mac* produces. (*dBase Mac* also uses special files for importing and exporting data.)

GETTING IN FROM OUTSIDE

dBase Mac supports the standard Macintosh user interface, and can have multiple windows open at one time, with a couple of interesting additions to the interface. Activities in *dBase Mac* windows can be performed by making menu selections with the mouse, by using command key equivalents (the two normal ways) or by clicking on an icon in the palette which appears at the left of the window. Palette icons correspond to menu selections, though not all menu selections can be represented in a single palette at any given time. *dBase Mac* supports a number of different palettes which are associated with various windows, each of which is customizable to some extent.

dBase Mac also uses pop-up menus. Pop-up menus appear in dialog boxes whenever there are a few fixed choices for some item. A pop-up menu is used, for example, to select the data type for a field, since there are only seven possible choices for a data type. Both the palettes and the pop-up menus are useful additions to the standard user interface and help make *dBase Mac* easier to use.

BY JAN L. HARRINGTON

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BASIC BUILDING BLOCKS

New data files are created in the structure window. Each rectangle in the window represents one data file. The fields in the file are listed below the file's title, with small icons that mark the key field and those fields that are indexed. Data files with lines connecting them are "related" (this is discussed in more detail below).

The first field in each data file is designated as the key; its values must be unique throughout the file. Like *4th Dimension*, the key is restricted to just the one field. For designs which require a concatenated, or multiple-field key, the single-key field must be either filled with the values of the concatenated key (leading to data duplication) or filled with an arbitrary key. If the data base designer chooses to duplicate key field values, then the user must either type the values twice (once into the key field and then again into the individual fields) or a procedure must be written to perform the same operation. This is also the only way to obtain a multiple-field index, since indexes can be built only on individual fields.

The inability to support multiple-field keys and multiple-field indexes is a serious drawback to both packages.

The program supports seven types of fields: text (any printing character), number (both integers and reals), date, time, logical (true/false or yes/no), choices (values are chosen from a predesignated list of values), graphic (Paint or PICT format graphics imported from the Clipboard).

dBase Mac also includes a desk accessory, *Picture This*, which can be used to copy parts of a Paint document to the Clipboard without exiting the program. *dBase Mac* also supports file memory fields, special fields that hold data that pertain to an entire data file rather than to a single record within a file (for example, totals). Both *4th Dimension* and *Double Helix II* support similar data types, though only *4th Dimension* handles text fields with scroll bars. (*dBase Mac* text fields will, however, scroll right and left with a drag of mouse.) *Omnis 3 Plus*, on the other hand, does not support graphics and

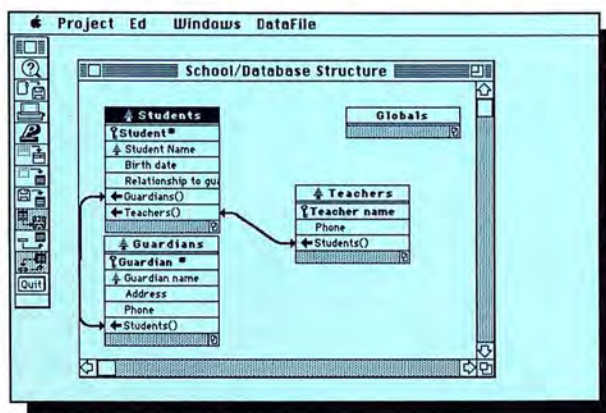
its text fields are limited to 79 characters, only four of which can be linked into one larger field.

Data from number fields can be posted to other locations within a data base. On data entry, a number can be added to or subtracted from any number or memory field in the same project, assuming that the file's data files have been related to one another. Advanced posting capabilities, similar to those of *Double Helix II*, can be obtained by writing simple programs.

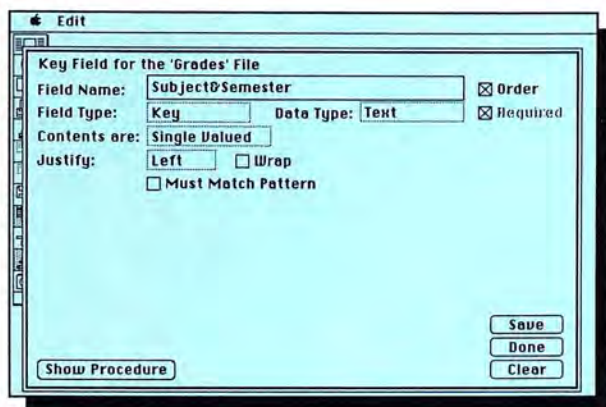
Like *4th Dimension*, *dBase Mac* shows relationships between tables by lines drawn between related files in the structure window. (If you're familiar with *dBase III Plus*, rest assured that *dBase Mac* does not have the MS-DOS product's limitation on the number of relationships that can be established. In fact, there is no limit to how many relationships can be defined between any two files.) A relationship is established by dragging a field name from its parent data file to the data file to which it is to be related. A pointer field, identified by the parentheses after its name, is added to each data file in the relationship.

dBase Mac relationships are more difficult to manipulate than *4th Dimension* relationships, particularly because each relationship requires the additional pointer fields in the two files being related. They are also conceptually more difficult. It helps to think of the relationships between data files as if they were defining a hierarchical, rather than relational, data model. This hierarchical way of looking at the structure becomes very important when creating forms for both input and output.

The explicit links between files and the pointers needed to implement them are, by the way, very "non-relational." In fact, a relational DBMS should have no explicit pointers between tables at all; relationships are expressed by the presence of matching columns between tables. The explicit links limit the data base in a very important way — multiple-table operations are limited to those pathways defined by the links. If someone needs to retrieve or store data in some other way, then



Each data file is represented by a rectangle in the structure window. Fields whose names end with parentheses are pointer fields, which are used to establish relationships between data files. The relationships are indicated by dark lines between the rectangles.



The first field in each data file is designated as the key. Key fields must have values and those values must be unique within the data file.



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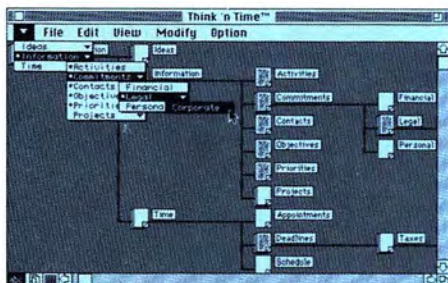
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the actual structure of the data base must be modified.

This criticism applies to *4th Dimension* as well. However, *dBase Mac* compounds the problem by requiring the user to be concerned with the manipulation of the pointers, something *4th Dimension* hides from the user. The way in which relationships between files are handled, and the complexity it adds to the construction of input and output forms is probably the feature I dislike most about *dBase Mac*.

DATA IN, DATA OUT

Traditionally, a view represents a single way of looking at all or part of the data in a relational data base. *dBase Mac* uses the term in precisely this way. A view represents a layout for data entry and/or output and may also have a procedure attached to it. The format of a view can be custom-designed or can be automatically configured to show data in columns (multiple records per page) or as a form (one record at a time). Only form layouts can be used for data entry. However, form and columnar

formats can be combined on a single output layout.

dBase Mac's Quick Create function will draw a columnar or form layout including all fields in a selected data file. However, if you wish to include only selected fields or fields from more than one data file, then you must specify the hierarchy of those fields using the hierarchy definition window. Any given view can display fields from a root data file (the first file selected for the view) and any data files related to the root data file. The pointer fields which relate two data files are filled by entering the key value of a related record on a form layout. Reports which require totals and subtotals are configured from the same window.

After the hierarchy of fields in a layout has been defined, the layout can be drawn. The layout view window provides tools to mark places for data entry and/or display, to draw lines, to draw fixed text and to draw fixed graphic objects. Fixed graphic objects, which appear in rectangles or round-cornered rectangles, may be filled with a pattern (chosen

from the Design Options dialog box) or a bit-mapped graphic image imported from the Clipboard. The font, size and face of all text on the layout is also controlled from the Design Options dialog box. In general, the drawing tools provided by *dBase Mac* are less flexible and more difficult to use than those of *4th Dimension*, which has a more familiar, more *MacDraw*-like environment.

SELECTING DATA

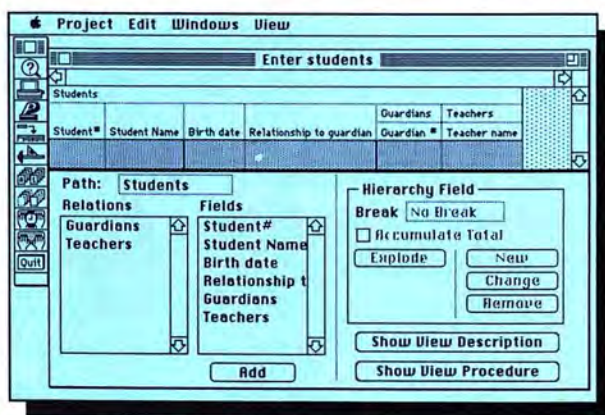
dBase Mac supports complex logical data selection criteria through its define selections window. The logical expression that specifies which records should be displayed in the view is entered into the scrollable area at the lower right of the window. The complete logical expression can be typed directly into the scrollable area. However, field names from the root data file and related data files can be selected from the two scrollable lists at the middle and left of the window. Logical operators can be selected from the three pop-up menus at the bottom right.

Records displayed on a view can also be sorted in any order. The sort definition window looks very similar to the selection criteria window. To define a sort order, the user simply clicks on the names of fields in the root data file and/or related data files.

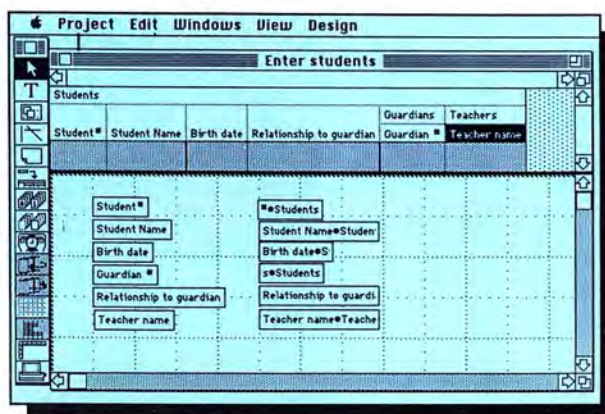
The records retrieved by a given set of selection criteria and a sort order can be saved in what is known as a "snapshot." Snapshots can be reused at any time. However, a snapshot represents only those records present in the data base at the time the snapshot was taken; any new records added later will not be automatically included.

IT'S ALL PROCEDURAL

Though it's possible to do a great deal with *dBase Mac* without writing a line of code, use of the DBMS's programming language is essential for the development of standalone data management applications. *dBase Mac*'s programming language is similar in syntax to *dBase III Plus*' language, but the extensions added to the language to give it a Macintosh flavor make the two completely



The fields that are to appear on a layout are selected with the view hierarchy definition window. Fields from data files related to the file on which the view is created are shown under the name of their data file.



The view layout window is used to design both form and columnar layouts. Graphics can be imported from the Clipboard to give layouts a customized look and feel.

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incompatible (that is, if you have lots of *dBase III Plus* code, don't expect to be able to port it over to *dBase Mac*).

The *dBase Mac* language is a fully structured language, including repeat and while commands for iteration and if/then/else and case for selection. The language also includes commands for drawing dialog boxes and alerts and for managing events in those objects. It is, however, less Pascal-like than *4th Dimension*'s procedural language, since it does not support calls to procedures with parameter passing. *dBase Mac*'s language is both less powerful and simpler than that supplied with *4th Dimension*.

DATA TRANSFER

dBase Mac can use data from a wide variety of sources. It can directly read *dBase II* and *III Plus* files that have been transferred to a Macintosh disk. The only exception is *dBase III Plus* memo fields, which should be converted to text fields on the MS-DOS end before the data files are transferred. In addition, *dBase Mac* can import data from *Excel*, *Double Helix II*, *Omnis 3 Plus* and a number of other spreadsheets, word processors and data base packages. All data imported from anything other than MS-DOS *dBase* require a special file (a foreign text structure file), which contains information about the physical layout of foreign text files.

IN PERFORMANCE

Relational DBMSs are notoriously slower than their non-relational counterparts. This is generally because the logical structure of the data

base is very different from the underlying physical storage structures, requiring the DBMS to do a great deal of work to translate a user's information management requests into file I/O statements. *Omnis 3 Plus*, which is more of a network than a relational DBMS, is therefore the speediest of the Macintosh DBMSs. Other reviewers have mentioned that *4th Dimension* is slow; *dBase Mac* is even slower. The screen refreshes at an alarmingly slow pace. Even simply moving a data file's representation in the structure window is unacceptably slow. The *PERFORM AND USE VIEW* command, which applies search and sort criteria, crawls, even if no search and sort criteria have been defined. I found that I spent an unreasonable amount of time looking at a spinning beachball, the cursor that indicates that *dBase Mac* is working.

DOCUMENTATION

dBase Mac comes with a tutorial (*Learning dBase Mac*), a user's guide, and a number of small, special purpose booklets (for example, one explains how to install *dBase Mac*). (Two pieces of documentation — a comparison between *dBase III Plus* and *dBase Mac* and a disk of data base templates — were not included with my copy of the software. They were to be sent after Ashton-Tate received the product registration card, but did not arrive in time for this review.) As long as you are not going to be writing programs, the documentation is adequate. The tutorial provides a very light overview of the product; the user's guide covers defining data base structure, relating data files, creating layouts and speci-

fying sort and search criteria. However, the documentation for the procedural language is rather skimpy. It includes a command-by-command description and a section on rules for constructing programs. There is very little sample code. People wishing to do significant application development may have to turn to third-party sources for examples of program code.

Compared to its competitors, *dBase Mac*'s documentation is as clearly written as both *4th Dimension*'s, *Double Helix II*'s, and *Omnis 3 Plus*'s. It is not, however, as comprehensive as the manuals that come with *4th Dimension*.

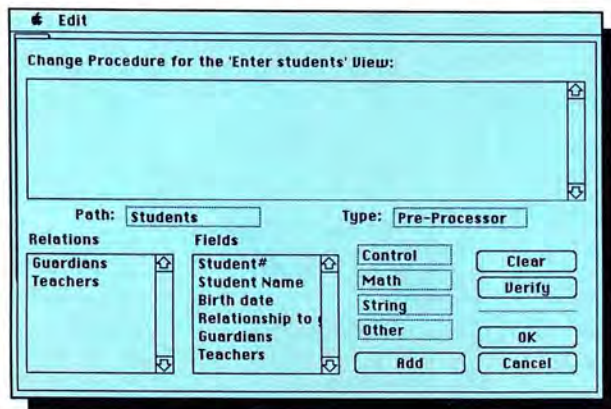
dBase Mac does include some minimal on-line help. In general the on-line help duplicates the reference section of the user's guide, providing command definitions. It may be of some use to someone working from the window/palette interface, but will not necessarily be of great use to application developers.

SUPPORT

dBase Mac enters the marketplace with Ashton-Tate's support staff behind it. The product comes with 90 days of free telephone support; additional support is available at a reasonable price (\$50 to \$150 for subscriptions during the first 90 days, \$62.50 to \$187.50 afterwards). Ashton-Tate's support people appear to be knowledgeable. If you call at the beginning of their work day, the wait on the phone is very short.

THE BOTTOM LINE

The entry of *dBase Mac* into the Macintosh DBMS arena reinforces what I felt when I reviewed *4th Dimension* (*MacUser*, November '87). *Omnis 3 Plus* may be in real trouble, though its installed base will keep it competitive for some time to come. With its inability to handle graphics, its limited text handling capabilities, its arcane programming language ("sequences") and less Mac-like interface, it will have a great deal of trouble attracting buyers except for high-volume users who are more interested in speed than any other quality. *Double Helix II* doesn't really compete for the same market, since it



The procedure window is used to create *dBase Mac* programs. Commands can be typed directly into the scrollable area at the top of the window or selected from the windows and pop-up menus at the bottom of the window.

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has no programming language and appeals to people who wish to work in a less-traditional, icon-driven environment. The choice for developers who wish to work with a tradi-

tional, programming language-dependent DBMS will boil down to *4th Dimension* versus *dBase Mac*.

In terms of raw power, *4th Dimension* is the clear winner. Once you

Counterpoint

I didn't think the test was so hard. I had an already existing mailing list in *McMax*, a *dBASE III* workalike. It had a simple data entry screen, a simple report and a routine for printing labels three-up in Zip code order. I wanted to convert all this to *dBASE Mac*.

I was doomed from the beginning.

The manual on converting a complete data base system from *dBASE III* to *dBASE Mac* wasn't in the box. Instead, there was a coupon, allowing me to order the missing manual, along with another one, when it became available.

The instructions on importing data from a *dBASE III* file to a *dBASE Mac* file were so unclear I had to call Tech Support. You see, *dBASE Mac* either can use an existing *dBASE III* file directly — handy for networks with PCs and Macs, I'll admit — or can convert it into a *dBASE Mac* file proper and sacrifice compatibility for additional function. Without realizing it, I had created a usable file of the first type. But I wanted the second. Too bad the docs didn't explain all this for human consumption.

Once I had file two, I couldn't figure out how to delete file one without losing access to the new one. Turns out all I had to do was close it first, but the manual doesn't bother mentioning that, either.

By abandoning my old file, I lost my field lengths. In *McMax*, every field had a fixed length, handy for ensuring my data would fit on mailing labels. My Mac beeped at me if I went over the limit. *dBASE Mac* can't do that. All fields are variable length. They scroll when you enter a long string. The only way to restrict a field's length is to attach a "post-processor procedure" to it. I couldn't find a length-restricting procedure anywhere in the manual. I couldn't even find anything in the index that remotely hinted that a person might want to do such a thing. I called Tech Support. They told me the procedure. Ready? IF LENGTH (fieldname) > 25 THEN BEEP SET NEXTBROWSE (fieldname) ELSE ACCEPT END.

So I'm wondering: This is easier than fixed length fields? Am I missing something? Hopelessly stuck in the past? Or doesn't anyone print mailing labels any more?

I decided to forget the labels and go wandering through the data for a while. But surprise! There's no easy way to find an arbitrary record. There's a key field. If you know and enter a record's key in this field, *dBASE Mac* will find it for you lickety-split. My file's key is "Record number." It got created automatically when I transferred data from my *McMax* file. Everyone who wants to memorize 750 record numbers raise your hand.

There's no easy way. But there *is* a way. In fact there are two ways. You can use a confusing Selection dialog every time you want to find a record. Or you can create an external index file for each field you think you might want to search on, and a companion "view" for each such index, which will let you treat that particular field with the same ease as the file's key field normally allows. Each view comes up in its own window.

Some choice. I want a data entry screen with all the fields there. I want to be able to fill in the field or fields of my choice with whatever data I have available and then I want to click on a Go Get It button and instantly see the record(s) that match my criteria. *dBASE Mac* doesn't even come close.

Don't believe them when they tell you there's no programming. Don't believe them when they tell you it's easy. If your application exactly fits their mold, you might luck out. Or if someone else sets up a complete data base system for you, and all you have to do is use their creation, you might be do fine. But if you're trying to generate your own from scratch, especially if you want something Ashton-Tate didn't think was important to do the way you want to do it, you're going to have a tough row to hoe.

The only bright spot in my endeavor was that Tech Support was excellent. But I can get more work done from the *McMax* dot prompt. — Henry Bortman

wade through its complexity, it is also easier to use. Its forms are easier to design, since they not only use a familiar *MacDraw*-like interface, but are free from concerns about data relationships (that is, the *dBase Mac* hierarchies). The logical links between tables are easier to manipulate, since the user doesn't have to be worried about pointers. However, although *4th Dimension* support has improved markedly, many people may decide to buy *dBase Mac* just for the support that Ashton-Tate can provide. If you want raw power, and are willing to go it more or less on your own, purchase *4th Dimension*.

As mentioned earlier, *dBase Mac* is less complex than *4th Dimension*. That characteristic in itself will also appeal to many users who don't want to deal with the *4th Dimension* environment. In fact, *dBase Mac* seems to strike a middle ground. It's not a high-end development system like *4th Dimension*, yet it still provides complete tools for developing stand-alone applications. ☐

JAN L. HARRINGTON IS AN ASSISTANT PROFESSOR OF COMPUTER INFORMATION SYSTEMS AT BENTLEY COLLEGE, WALTHAM, MA. SHE IS THE AUTHOR OF RELATIONAL DATABASE MANAGEMENT FOR MICROCOMPUTERS: DESIGN AND IMPLEMENTATION.

MAC USER RATING

dBase Mac ★★★★★

Follows Mac Interface	■	■	■	■	■
Printed Documentation	■	■	■	■	□
On-Screen Help	■	■	■	■	□
Performance	■	■	■	□	□
Support	■	■	■	■	■
Consumer Value	■	■	■	■	□

Comments: *dBase Mac* is a relational DBMS which includes a structured programming language for the development of standalone applications. The addition of palette icons as alternatives for menu commands and pop-up menus will aid novice users in data base development.

Best feature: Any easy-to-use interface makes the DBMS accessible to users who do not wish to program. **Worst feature:** The pointers used to establish relationships between data files are difficult to manage. **List Price:** \$495. Published by Ashton-Tate, 20101 Hamilton Ave., Torrance, CA 90502-1319. (213) 329-0086. Not copy protected.

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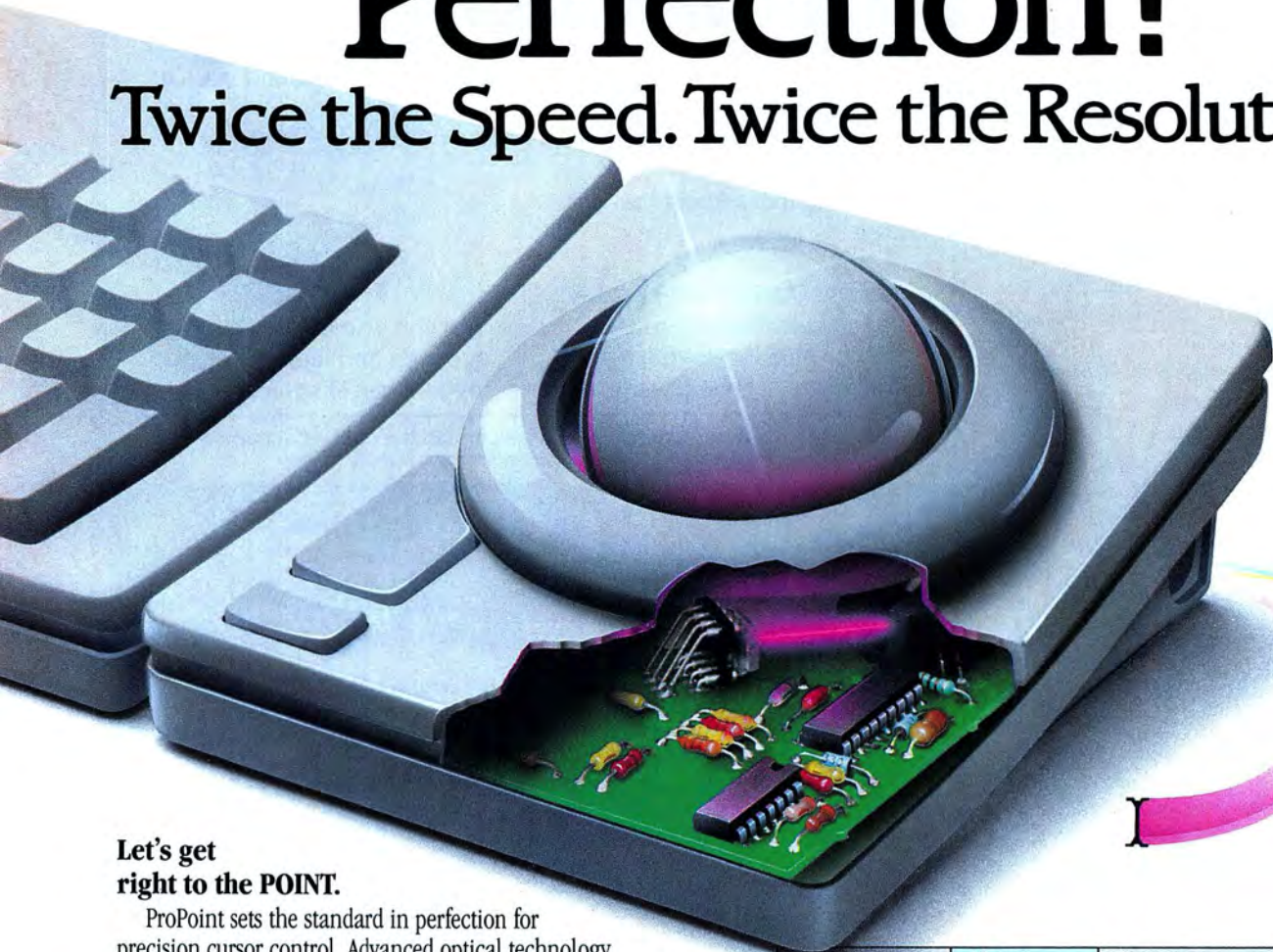
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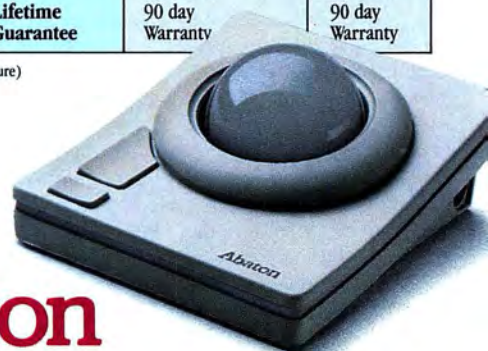
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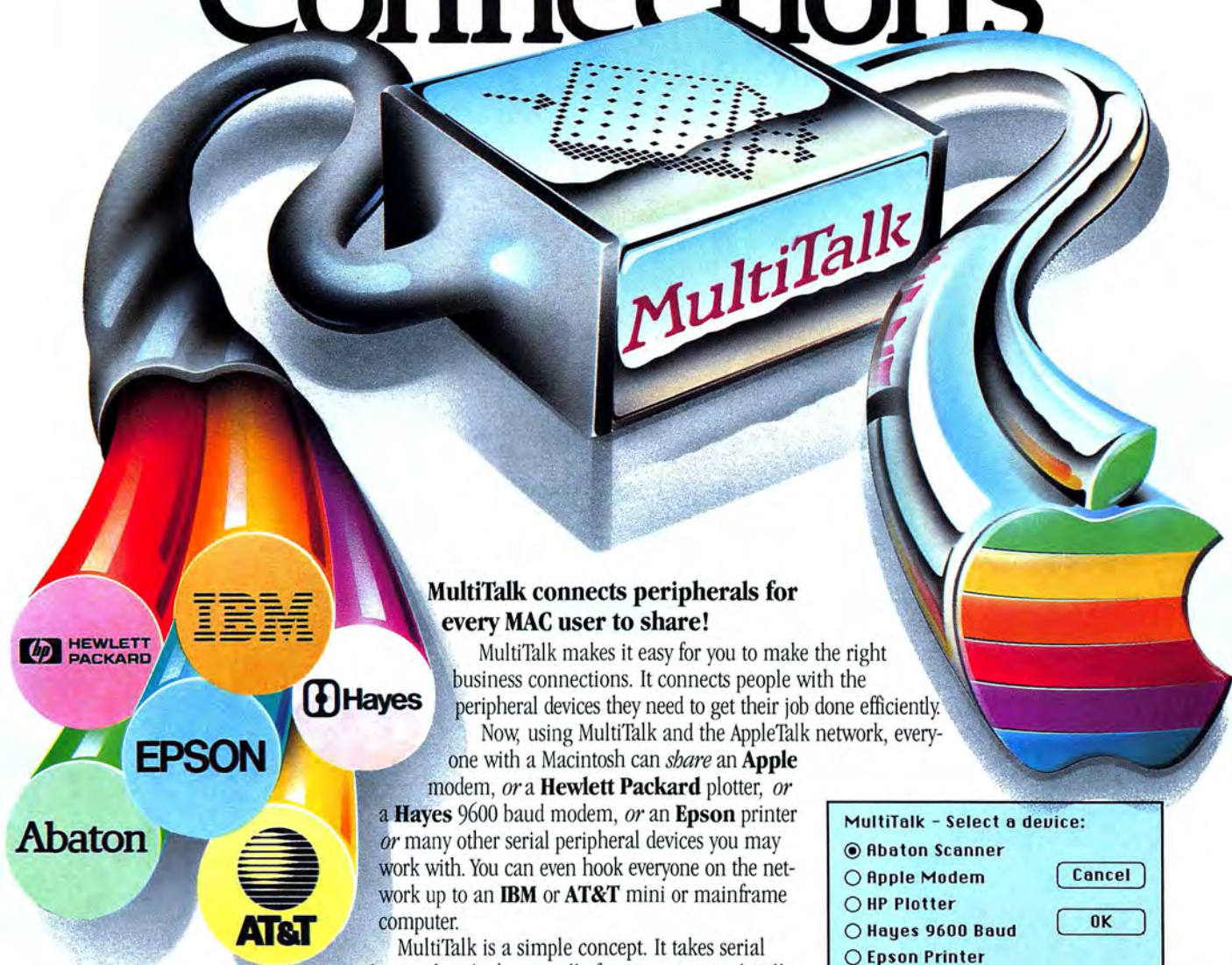
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Trusting Your Reflexes

Reflex Plus offers ordinary users relational data base power and speed without a steep learning curve.

CHOOSING A DATA BASE IS A LOT LIKE choosing a car. You can buy a Yugo to drive from Maine to Florida with all your possessions in tow, or you can get a Jaguar to get you to the local 7-11 along back roads for a quart of milk. Sure, driving the Jaguar is fun. Most of the time, though, you'd like to match the tool more closely to the task and buy what you need.

That's not to say that *Reflex Plus* is a Yugo. Far from it! But it's not quite a Jaguar, either. Think of it more like the family Honda, providing a smooth ride for your grocery shopping, nights on the town and trips to the country, while requiring little maintenance and getting superb gas mileage on standard unleaded.

CAN YOU RELATE?

If you've used any other data base program on the Macintosh, *Reflex Plus* will probably look familiar to you. Before plunging headfirst into data entry, you have to define which quantities you want to store — the data base fields. General-purpose text fields can hold up to 4000 char-

acters. Integer, number, date, time and logical fields are supported as well. A data base can also hold one field for an automatic, unique record sequence number, an especially handy feature if you want to retain the order in which entries were made or force acceptance of records with identical keys.

Another kind of field is needed in any data base linked (or related) to another data base. If you're used to keeping your address book in one flat file, you may not immediately see the need to keep information in distinct but related records. However, the moment you try to juggle information about customers, suppliers, inventory and transactions where a change in one file has to ripple through to other files without any further data entry, you'll realize how important those link fields are. In fact, they're not much different from the links you can create between information in *Excel* spreadsheets and, once you use them, they'll make ordinary data bases look like *Lotus 1-2-3*.

In *Reflex Plus*, link fields come in

two types: links to just one record and links to multiple records. In a relation between suppliers and inventory, both link types would be used. Supplier records would contain links to multiple items in inventory, but each item might come from only one supplier. As you're designing a data base, you'll have to decide which kind of link is needed. If you make a mistake or change your mind later, don't worry. You can change the link type. And you can change the type of any field, without losing data unless the field type change creates incompatible fields.

The relations you form with *Reflex Plus* are real ones — not just one-time lookups into another file as you find in *FileMaker Plus*. Relations refer to a particular record or set of records in another data base. To the data base designer, though, all links aren't exactly equal. *Reflex Plus* creates its relations in much the same way as *dBASE Mac*. It requires every data base to contain a unique key or set of key fields, and then uses the link field to identify another record by its key only. *4th Dimension*, on the other hand, creates its links a little more transparently. Key fields aren't required in *4D*, and no separate link fields are explicitly created. Instead, individual fields of two data bases are declared as linked. While the differences between these two schemes are slight and shouldn't affect what you can do with the data bases, knowing about the differences will make moving data from one data base program to another much easier.

VALID ENTRIES

As with most data bases, *Reflex Plus* uses entry screens as the primary screen for entering or modifying data. Once you've defined the fields, you can create a predesigned stacked-row entry screen automatically. You can move fields around and reorganize them on a pre-made screen, or design an entry screen from scratch.

BY LINDA CUSTER

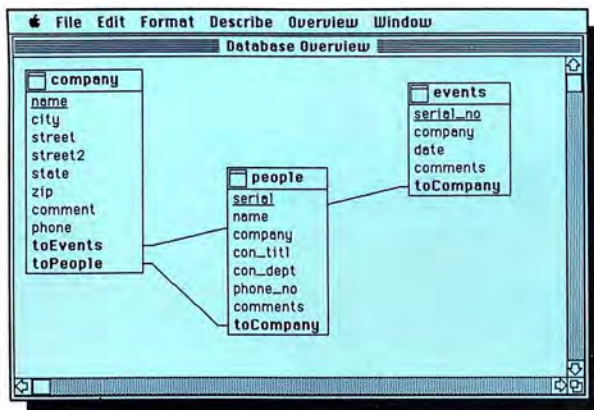
Trusting Your Reflexes

The entry screen need not include all the data base fields, and it can contain new fields such as fields from other data bases or calculated fields. Any calculated field can draw from a complete formula language that contains many of the same scientific, financial and string handling functions found in *Excel*, so you can almost use *Reflex Plus* to build a spreadsheet.

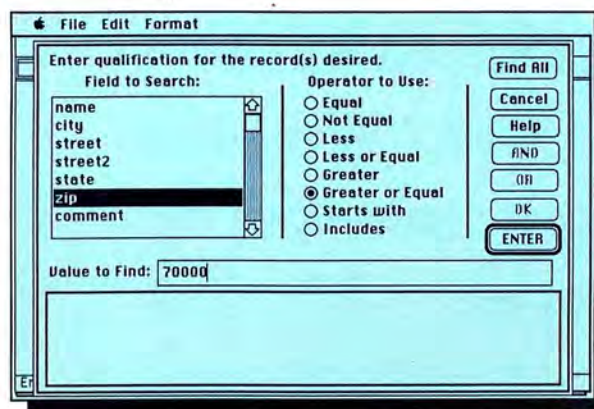
Designing custom entry forms is easy. Switch to Entry Design mode and then drag the mouse to lay down a black rectangle. Then choose a field type from the menu bar to turn the rectangle into a field. Fields can be declared as Display Only if you don't want users to modify them. Behind fields, both default formulas and entry qualification formulas can be defined. Default formulas will enter data into fields automatically unless you specifically override them — handy for entering today's date or a common account number, for example. Qualification formulas assure that entries follow certain rules, such as checking that Zip codes have five or nine digits, that fields are not skipped or that numbers in certain fields are not negative. By comparison, in *4th Dimension*, most entry qualification algorithms and all field calculations require programming. In *FileMaker Plus*, entry qualification is often impossible outside well-defined limits.

A useful feature of entry screens is the repeating collection (somewhat like a hybrid of the included layouts and subfiles available in *4th Dimension*). Repeating collections are areas that expand automatically to include fields from selected records in another data base.

Besides entry screens, *Reflex Plus* provides another view on a data base called a Utility Screen. A data base can have any number of entry forms associated with it, and each entry layout is stored as a separate file. On the other hand, each data base has only one utility screen. Information about that screen is stored with the data base itself. Utility screens are not as flexible as entry screens, but they display every data base field and allow importing and exporting of data from non-*Reflex* files.



New data bases are created and old ones are restructured in the main Database Overview window.



Data bases can be searched by typing criteria from scratch, but you can also build criteria using this simple dialog box.

REPORTING FOR DUTY

If you're familiar with the way entry screens are set up in *Reflex Plus*, you'll be very comfortable with its reporting features. As with entry forms, reports can be created in a predetermined way (a table format) and then modified if desired. Or they can be designed completely by hand. Repeating collections are supported within reports, and they can be nested many layers deep. A powerful Group By function lets you group records with common values in particular fields, so you can easily sort lists by, say, city and then Zip code, if you like. Report fields also have access to the full range of functions available throughout the program, so calculated report fields are very useful.

Once you've laid out the items to be included in the report, you then "calculate" the report at that instant. Print it out, view it on the screen or do both. Be careful, though, since reports are not linked to the actual data. Instead, they only fetch the information from data bases and re-

turn a snapshot of the record. Only the skeleton template of the report is saved to disk. When you quit the program, the report will be gone.

Storing only report instructions rather than reports with data might sound like an inconvenient method, but it has some advantages. Only the most recently updated versions of records can be used to produce reports. If you need to save the report on disk to manipulate later, you can export it into a more shareable form like a text file and bring it back into *Reflex Plus* or another application at some later time, so you lose very little. Calculating reports of moderate complexity is fast enough on a Mac Plus or SE so that calculation time should seldom be a significant holdup. Moreover, if you find yourself wanting to store and later manipulate many reports, designing a new entry screen and using the entry windows will probably be more efficient.

Since many functions can be performed in either the utility screen, entry screen or report format, debates about which form is right for

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Trusting Your Reflexes

which jobs are bound to spring up. In general, use the utility screen for importing and exporting whole files. Use the entry screen for almost everything else, and report screens when you want to provide sorted and structured hard copy.

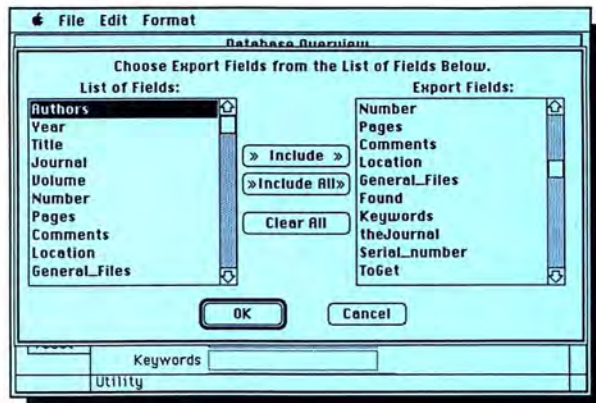
MANUAL MODE

Borland includes with *Reflex Plus* one of the most complete and easy-to-use manuals I've seen for a Macintosh product. From their usual nonsense license statement (one you don't need to hire a lawyer to understand) to the glossary and troubleshooting sections, they didn't leave anything out.

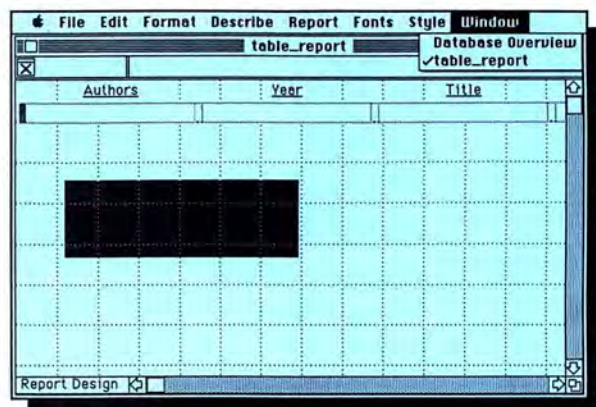
The 195-page soft cover tutorial takes you from data base neophyte to *Reflex Plus* expert and assumes nothing. Its layout, writing style and organization are inviting. If that's not enough, a screen shot on just about every page further illustrates important points. Spend a few minutes with the tutorial exercises, even if you're the kind of user who hardly ever reads through manuals. It'll be time productively spent.

Once you're comfortable with *Reflex Plus* and need more detailed information, consult the 600-page looseleaf user guide — the real manual. Combine the chapter side tabs with the thorough index and go right to the answer. The user guide doesn't have quite the density of screen shots of the tutorial. However, it's written from the perspective of a user who has solved the same problem you're facing now and who knows how to explain the solution. The authors of the manuals write as if they never even met the programmers. Instead, they put in many hours as typical end users recording the parts of the program they understood least well and seemingly read our minds. The result is impressive and increases the program's value considerably because it "uncovers" even the most buried features.

If you owned the original *Reflex* or *Interlace* (the program that became *Reflex*), be sure to read over the short appendix on updating your files to work with *Reflex Plus*. Remember to keep backups of your old files, since when you first open them



Reflex Plus utility screens are useful for importing and exporting data, and a dialog box like this one gives you control over which fields are involved.



While *Reflex Plus* will design a table-style layout for reports automatically, you can modify the layout by selecting an area (black rectangle) and defining new fields, or by dragging fields around.

with *Reflex Plus* they'll be automatically but irreversibly converted to a new format and can no longer be read by the older programs. In most cases, you don't have to do anything else.

MISSING LINKS

A few rough edges left in *Reflex Plus* might hamper some users. *Reflex Plus* never displays in its entry forms how many records are currently selected or how many records are in the data base as a whole. You need to design and display a calculated field if you want that information. Also, the scroll bars on the screen only scroll across the current record. You can't use the mouse to skip to, say, somewhere close to the end of the data base and start browsing from there. A command key moves you through ten records at a time, forward or backward, but ten records are too few to move efficiently through a large data base.

Every record must have a unique key field or set of key fields, and at least one of those key fields has to be filled before any other data can be

inserted. I worked around this limitation by starting all data bases out with an automatic sequential field, but still had to tab to my first data base field to start entering each record. In many cases, records with blank key fields might be appropriately rejected. The designer of the data base should have the flexibility to decide that point, though, and sometimes intentionally incomplete records are the most important records in a data base. Finally, *Reflex Plus* doesn't assign a command key equivalent to allow you to copy a field from the previous record. Instead you have to write a default formula that will apply in all cases.

One thing you won't find anywhere in *Reflex Plus* is sophisticated graphics support. You can add text of any available size and style to an entry form, but no graphic drawing tools are provided. However, you can import any graphics in from your favorite paint program, or import a scanned image of a form. The imported picture will stay in the background and you can then lay down fields on top. Most users won't re-



The Parallel Printer Link

If you own a Mac Plus, SE or II, at least there is available a link to all popular parallel printers. For 9 pin printers it's the Grappler® C/Mac/GS* and for 24 pin printers or laser printers use the Grappler® LQ.

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Although the Grappler series is new to the Macintosh, it is well known for enhancing Apples. With over 550,000 units sold, Grappler printer interfaces are among the most popular additions in the history of the personal computer. With a reputation for quality, innovation and excellence, you can trust Orange Micro for your Macintosh printer interfacing needs.

*The Grappler C/Mac/GS version also serves as an interface for the Apple IIc and IIgs.

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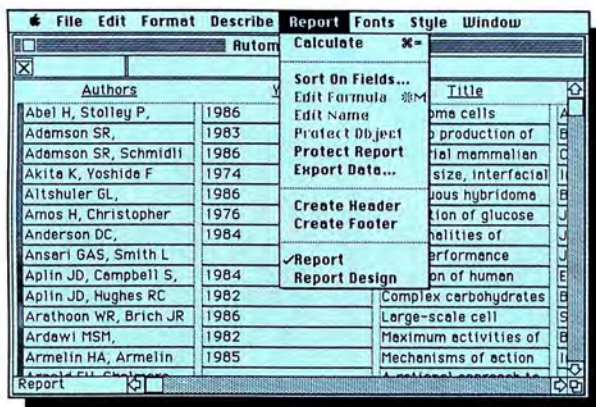
Useful Relations

If your address book is in a flat file now and it performs just fine, you may well be wondering just how a relational data base will help you. The word "relational" is often misused and poorly understood. In general, relational data bases are excellent for keeping track of groups of items where items in different groups are related, but are not always in 1 to 1 correspondence.

Any data base full of transactions should be relational, whether those transactions are items of inventory being sold to customers, personal contacts with people or books being checked out of a library by students. In one data base, for example, you might list all customer names. In another, you list all items of inventory. And in a third data base, you list all invoices issued. By linking each invoice to one single customer and to as many inventory items as required, you have very little information to actually enter into the invoice. The date, customer address and item descriptions will be entered automatically, and the invoice can easily be totalled using calculated fields in the inventory entry or report form. Finish the complete system by creating a fourth data base for the names and addresses of suppliers, with a supplier linked to each inventory item, and a last data base to hold all your purchase orders (similar to invoices). Viola! You have a complete ordering system as well.

You don't have to run a business to benefit from the power of relations, though. Extending your address list to link it to a data base of meetings allows you to generate a repeated collection of meeting dates and comments within a name and address listing. This can be useful if you need to remember the last time you contacted someone or to jog your memory for overdue letters or phone calls. Also, personal finances are easier to keep track of when checks written are in one data base and another data base holds the information on all charge accounts and companies providing services. The possibilities are almost limitless.

Relational data bases save typing. You wouldn't want to have to enter a customer's name and address every time they made a transaction, and you wouldn't want to type an item description if that description already existed somewhere else. But relations can do more than that. They can help you organize the way you think about the information you have on hand and keep more relevant information in front of you at once without requiring a specific search. Turning a flat file into a relational one isn't hard at all, and the process is covered clearly in the manuals for most relational data bases, including the manual for *Reflex Plus*.



Once a report design is created, calculating reports from all or part of a data base is easy.

quire anything else to create "smart forms."

A few other goodies are missing — goodies I learned to love in *File-maker Plus*. Goodies like sliding fields. With *Reflex Plus*, reports require that fields be laid out so their horizontal positions are absolute. For example, if you're designing address labels and you'd like to "slide"

the state and Zip code to the left if the city name is short, you have to export the data base into another program.

Or goodies like fields that can change their layout size. When a field contains too much information to be displayed in the space you've drawn for it in *Reflex Plus*, the extra information is simply truncated. The

entry still exists in the data base, but the display area doesn't increase to show it and you can't scroll it with the mouse. If you continue typing, the whole entry is stored, but typing will be blind. And if you make a mistake, you won't see it. The only solution is to change the form layout so the allowed area is large enough. Someone experienced with *Reflex Plus* could do this almost instantly (although they may not want to change the data base layout just to accommodate a few records), but someone unfamiliar with the program will probably be stumped.

GO TO LAST RECORD

Overall, *Reflex Plus* performs well and lives up to the claims that Borland makes about it. If you don't need fancy graphics or a totally customizable user interface, but you want a relational data base that will help you link invoices to clients and vendors or create similar multifile data bases, you won't be disappointed. The rich formula language makes validating and calculating fields on entry a snap, and the data types provided are flexible enough so you won't find yourself constantly redesigning structures.

Stop by your local Honda dealer — oops — your local software store today and test out *your* Reflexes. ☐

LINDA CUSTER IS A GRADUATE STUDENT AT UC BERKELEY AND SPENDS MOST THURSDAY NIGHTS DOWNSTAIRS AT BMUG MEETINGS.

MACUSER RATING

Reflex Plus

Follows Mac Interface	■	■	■	□	□
Printed Documentation	■	■	■	■	■
On-Screen Help	■	■	■	□	□
Performance	■	■	■	■	■
Support	■	■	■	■	□
Consumer Value	■	■	■	■	■

Comments: A multifile relational data base with "smart" entry and report design, but no overall programming facility. **Best Feature:** Simple to set up yet fast (even at accessing or importing very large files). **Worst Feature:** Graphic capabilities are quite limited. Forms can contain only text or background graphics. **List Price:** \$279. Published by Borland/Analytica, 4585 Scotts Valley Drive, Scotts Valley, CA 95066-9987. (408) 438-8400. Version 1.0 reviewed. Not copy protected.

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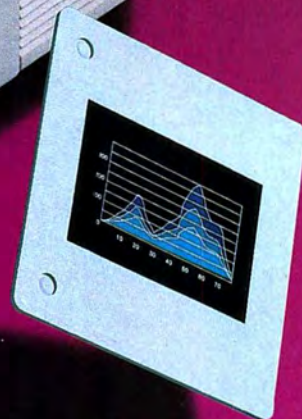
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Picture Perfect

**If your presentation requires real
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IT WASN'T TOO LONG AGO THAT many high-tech public relations firms had written off the corporate slide show as too static. Video was the more dynamic alternative. But the Macintosh has exposed lots of business people to easy graphics like pie and bar charts — the stuff that slide shows are made of. Now there's renewed interest in getting those images off the Mac screen and onto the big one. Presentation Technologies' ImageMaker is one solution to the expensive problem of computer generated slides. Little more than a year

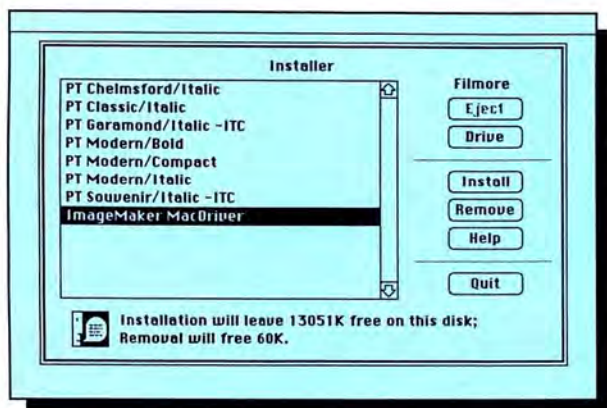
ago your basic color slide processors were targeted at \$12,000. Now, for about a third of that cost, busy corporate art departments can get an ImageMaker. At this amortized price, type houses can expand their services and better use their Macs by offering slide-making in addition to their stand-by laser printing.

The idea behind the ImageMaker is simple. You compose the slide in the application of your choice (of which there's a large variety of software to choose from), but instead of printing to the LaserWriter, the Ima-

BY BEN TEMPLIN



Picture Perfect



Apple's *Installer* program quickly and easily adds the *MacDriver* resource and Presentation Technologies' fonts to your *System*.

The idea behind the *ImageMaker* is simple. You compose the slide in the application of your choice, but instead of printing to the *LaserWriter*, the *ImageMaker* makes an exposure of that graphic on film.

geMaker makes an exposure of that graphic on film — in color and with added text.

FIRST EXPOSURE

Unpacking the *ImageMaker* is relatively easy. You'll need to remove strategically placed pieces of packing foam and snap the camera housing into place. The camera is just a standard generic 35 mm body with a faceplate attached to the front. The cable that controls the shutter plugs into an 8-pin socket. There's a light bulb that needs installing in the rear, and you'll have to insert the font cartridge into its slot. The *ImageMaker* comes with one font cartridge, *Classic*, which is a Times Roman equivalent.

The interface cable hooks up to the

Mac through the modem or printer port of any Mac from a 512K through the SE. As far as the hardware goes, that's it. Turn it on and the *ImageMaker* goes through a diagnostic check. If anything isn't snapped into place, the Alert LED lights up on the control panel.

On the software side, the *ImageMaker* is controlled by Presentation Technologies' *MacDriver*, a System resource that's installed with Apple's *Installer* utility. Just double-click on the *Installer* icon and a dialog asks what program or font you want in your *System*. Choose *MacDriver* and whatever fonts you have font wheels for and click *INSTALL*. Even if a particular font (Garamond ITC, for instance) is already in your *System*, you'll have to use Presentation Technologies' version. It'll show up in your Font menu with a PT prefix (e.g., PT Garamond ITC).

To make the Mac recognize the *ImageMaker* as a peripheral go to the *Chooser* and click on the *ImageMaker* icon that will now be there. Make sure the correct port (printer or modem) is also selected. This changes the Page Setup dialog found under the File menu. Instead of the standard paper printing options, you can now choose background colors for a slide.

IT'S UP TO HUE

Installing *MacDriver* also leaves you with a new desk accessory, *Map Colors*. This DA allows you to assign patterns to represent up to 16 shades of eight different colors.

Using patterns to assign colors is nothing new for Mac users. But patterns vary between applications, so

Presentation Technologies also includes a utility that coordinates different patterns to one standard. The *Pattern Fixer* needs to be copied into the folder of every application you plan on using to create slides. Double-clicking on the icon brings up a dialog box that contains icons for several popular presentation programs including: *Excel* 1.03, *MacDraw* 1.9, *MORE* 1.1, *PowerPoint* 1.0, *Jazz* 1a, *Cricket Graph* 1.1, *Microsoft Works* 1.0, *MacDraft* 1.2a and *Microsoft Chart* 1.0. Just highlight the right icon and click *INSTALL* to change patterns.

The problem with *Pattern Fixer* is that you need the exact version of any given application that the *ImageMaker* supports — which is not always the most current. I had to dig up an earlier version of *Excel* (1.03) from some old backup disks just to get the *ImageMaker* to produce *Excel* charts. The icons in the *Pattern Fixer* can also be misleading. A *Cricket Draw* icon is there, but the *ImageMaker* doesn't support PostScript, so using *Cricket Draw* to produce slides would be a waste of time.

POINT AND CLICK

While you can use many different applications to create slides, the *ImageMaker* still imposes limits on every program, no matter how powerful. In some cases it may be just as easy to work in *MacDraw* as it is to use a complicated desktop presentation package.

The fonts you can use depend on the font cartridges you've bought from Presentation Technologies. There's a variety of serif and sans serif fonts available, and there's also a "Euro" wheel that contains many of the accent and diacritical marks used in European languages. PT says they also have a scientific and engineering cartridge in the works.

The cartridges are actually wheels with a negative image of a character set so that light can pass through and make an exposure on the film. Special symbols are limited to stars, triangles, arrows, hands, check marks, bullets and diamonds. For an extra \$200, Presentation Technologies will customize a font cartridge by adding your company's logo as a

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The collage displays the following screenshots:

- Company Data:** A form for entering company information for Global Info., Inc., including address, phone, and employee details.
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- Create New File or Structure:** A dialog box for creating a new database file or structure, with options for file type and record terminator.
- U.S. Sales--Widget Corp.:** A map of the United States showing sales data by state, with a callout for California showing 4,200,000 units and \$16,350,505 in sales.
- Retail Video System/Database Structure:** A window showing the database structure, including tables for Patrons, Invoices, and Video Inventory.
- Call History Report:** A window showing a call history report for a specific contact, with fields for date, type, results, and next call.
- Retail Video System/Database Structure (Detailed):** A window showing the database structure, including tables for Patrons, Invoices, and Video Inventory, with a detailed view of the Video Inventory table.
- Contacts by Company:** A window showing a list of contacts by company, with columns for company name, address, city, state, and zip code.
- Transfer Proj./Database Structure:** A window showing the transfer of a project or database structure, with fields for record number, first name, last name, address, city, state, and zip code.
- Widget Corp. Invoice Lookup:** A window showing an invoice lookup for Widget Corp., with fields for invoice number, date, customer, and patron ID.
- Change Procedure for the 'Invoice Entry Form' View:** A window showing the change procedure for the 'Invoice Entry Form' view, with fields for break, case, exit, for, if, loop, next, perform, print, project, report, set, setnext, use, and while.

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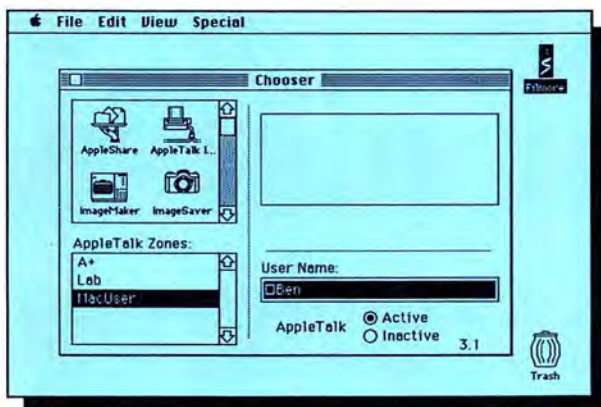


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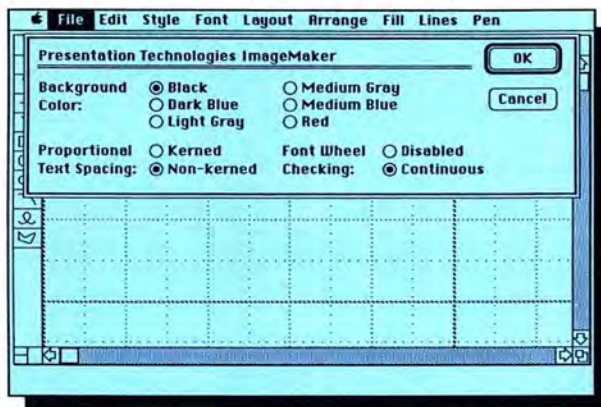
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Picture Perfect



Installing the *MacDriver* adds the ImageMaker icon to the *Chooser*. It may look like a microwave oven, but selecting it opens the way to shooting slides.



The Page Setup dialog contains some different options that allow you to set background colors and turn kerning on and off.

Composing slides on the Mac can be tricky. What appears aligned on the small screen will often look skewed on the big one.

symbol on the wheel. Depending on the font cartridge, you'll be able to produce bold, italic and underlined text, but you won't be able to use other special text effects like outline or shadow. You'll have to make up this "deficit" with patterns and color.

The *Map Colors* DA lets you assign specific patterns to certain colors. There's a color chart in the manual to help you get an idea of exactly how the colors will look. The eight basic hues are blue, violet, green, red, orange, magenta, yellow and white.

Each of these also comes in a "Lo" variety which is just a darker tone of the same shade. The color fills can either be solids or a pattern itself can be colored and used as a fill. If the application you're using supports color (*MORE 1.1C*, for instance), you can switch off the Map Colors option and revert to QuickDraw's color output — but that's the eight colors built into the original QuickDraw, not the 256 that Color QuickDraw provides for the Mac II.

Composing slides on the Mac can be tricky. What appears aligned on the small screen will often look skewed on the big one. Presentation Technologies suggests using a program that has grids or an alignment feature to assure proper placement. Be sure your diagram is not too large. If an image extends beyond the dimensions of a 35 mm slide the object outside of the frame will be bumped to a second slide. This is where it's useful to have programs like *PowerPoint* that have 35 mm templates.

Also, the ImageMaker doesn't accept overlays of objects. Let's say you have a graphic of two boxes with dif-

ferent patterns, one on top of the other. The overlay portion will mix the two colors of the different patterns. This may expand your palette or it could make the text unreadable. You'll have to experiment.

Unsupported graphics applications can still be used to create slides if they can be saved in the PICT format. Just import the finished product into *MacDraw* for output to the ImageMaker.

SLIDING HOME

To shoot a slide you'll need film. The ImageMaker takes Ektachrome 100 or Polachrome Instant and comes with two rolls of the former. Load the film as you would any other 35 mm camera. Insert the cartridge, feed the lead along the sprockets, close the camera and advance the film a few frames.

Choose PRINT and the ImageMaker begins whirring, clicking and scratching its way to shooting the slide. The font wheel searches for the appropriate character and each letter is exposed on the film in turn by a beam of light. Kerning (which can be turned off in the Page Setup dialog) takes place as each letter is exposed. If you try sending a slide through without having the right wheel, *MacDriver* stops and asks you to switch cartridges.

Shooting a slide is so slow, you'll want to have a good book at hand. What the ImageMaker really needs is a SCSI adapter to speed things up. A typical slide takes 10 minutes, but with some you could go off to a long lunch and still get back before it's finished.

SHUTTER BUGS

As it is, the *MacDriver* doesn't work well with the Mac II. Sending a simple *MacDraw* document resulted in an "RS232 communications overrun" error. Presentation Technologies attributes this to "an occasional timing error." Mac II support is critical since most users will want to see exactly how colors match before shooting a slide. At press time, Presentation Technologies was still working on a fix so that the *MacDriver* would work more efficiently with the Mac II.

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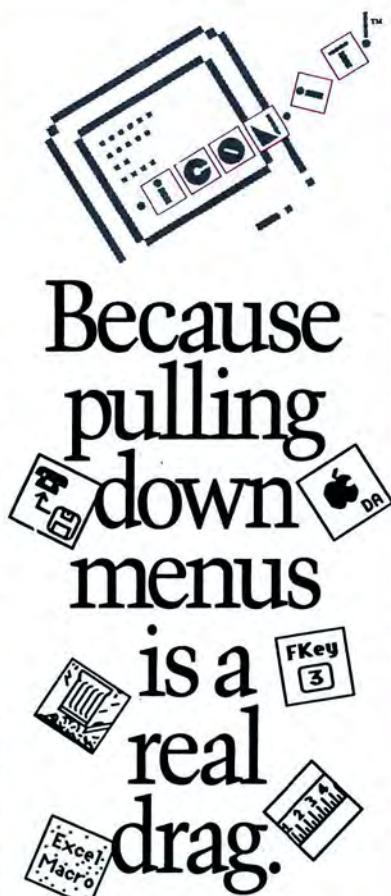
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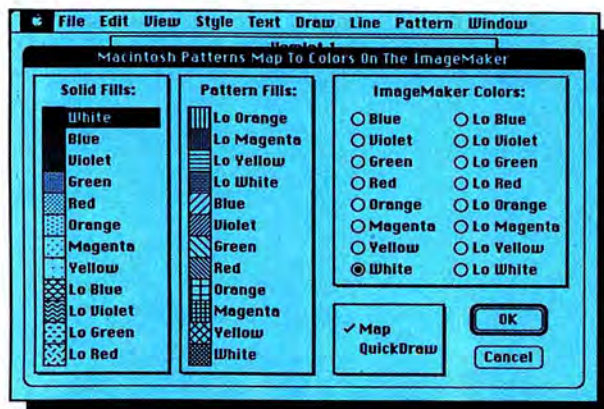
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Picture Perfect



The *Pattern Filler* installs a generic pattern in many popular desktop presentation programs. You have to make sure you have the version that Presentation Technologies supports—not always the most current.



The *Map Colors DA* substitutes patterns for colors. The colors can also contain the pattern in the fill. There's an option to turn off the mapping and revert to QuickDraw's interpretation of color.

The ImageMaker is the most affordable in-house solution around to getting slides off the Mac.

Tech support was so-so. When I had difficulty installing the Pattern Filler into *MORE*, I was told on the phone (a toll-free number for anyone who lives outside of California) that the name of the application's icon had to match that of the icon in the *Pattern Filler* dialog. OK. I deleted the "v 1.1" from the name. Still didn't work. A second call and I was told that *MORE* doesn't do patterns. Could be. I wasn't too familiar with *MORE*, but later discovered an

option for patterns buried under a menu layer or two. My third call revealed that the icon in the *Pattern Filler* dialog was wrong. I needed to add "v 1.1" to the icon name — just what I had been told to delete on my first call! All this points to some serious communications problems among the support staff at Presentation Technologies.

There are two separate manuals — one each for both the hardware and the software. Since the ImageMaker was first conceived as an IBM peripheral, the hardware manual outlines how to hook the machine up to a PC. There's not much difference, but the Mac version lacks some of the perks that Presentation Technologies included for that other format — like a test disk. Most of the slack is taken up in the *MacDriver* manual. You'll need both manuals open when initially setting up. The *MacDriver* manual is excellent, especially its tips on composing slides. Application notes are included for *MacDraw*, *MacWrite*, *MORE* and *Excel*. By

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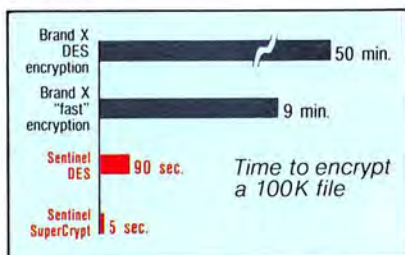
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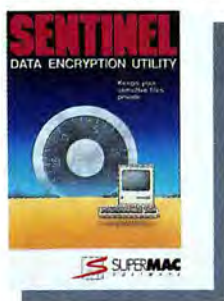
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unlock them all with one password.

The *WorkSet* feature remembers which files have been opened at any time during a work session, and gives you a quick lock-down capability. Sentinel was designed to be unobtrusive and easy to use, making file security a natural work practice.

Price: \$149.95.

Minimum system requirements:
Macintosh 512e



Picture Perfect

sending in the registration card you'll get updated application notes free.

There is a section in the hardware manual that outlines potential hardware problems and the solutions. If the obvious doesn't work (like checking connections) then Presentation Technologies suggests you call the dealer. This kind of cavalier attitude is what often leaves users discouraged, especially when dealers are uninformed or out of business.

The ImageMaker is the most affordable in-house solution around to getting slides off the Mac — for that a five mouser should be awarded. But the lack of good tech support, the inability to output PostScript, the absence of a SCSI interface and incompatibility with the Mac II lose this machine a mouse. To their credit, Presentation Technologies says they are tailoring their product to the Macintosh and that future releases will have test disks and other enhancements.

Direct output from a computer to slides has been the wish of art directors for years. In the early days of computer magazines, some photographers specialized in shooting slides off a computer screen and made good money just doing that. While the ImageMaker may not put them out of business, it could easily make the time between jobs a lot longer.

BEN TEMPLIN IS THE ASSOCIATE EDITOR OF MACUSER AND IS RECOVERING NICELY, THANK YOU.

MACUSER RATING

ImageMaker	★★★★
Follows Mac Interface	■ ■ ■ ■ □
Printed Documentation	■ ■ ■ ■ □
On-Screen Help	None
Performance	■ ■ ■ ■ □
Support	■ ■ □ □ □
Consumer Value	■ ■ ■ ■ ■

Comments: Makes color slides out of PICT graphics. **Best Feature:** Wide range of software support. **Worst Feature:** Not fully compatible with the Mac II. **List Price:** ImageMaker, \$4995; MacDriver, \$149; additional font cartridges, \$395. Requires 512K. Presentation Technologies, 743 North Pastoria Ave., Sunnyvale, CA 94086. (408) 749-1959.

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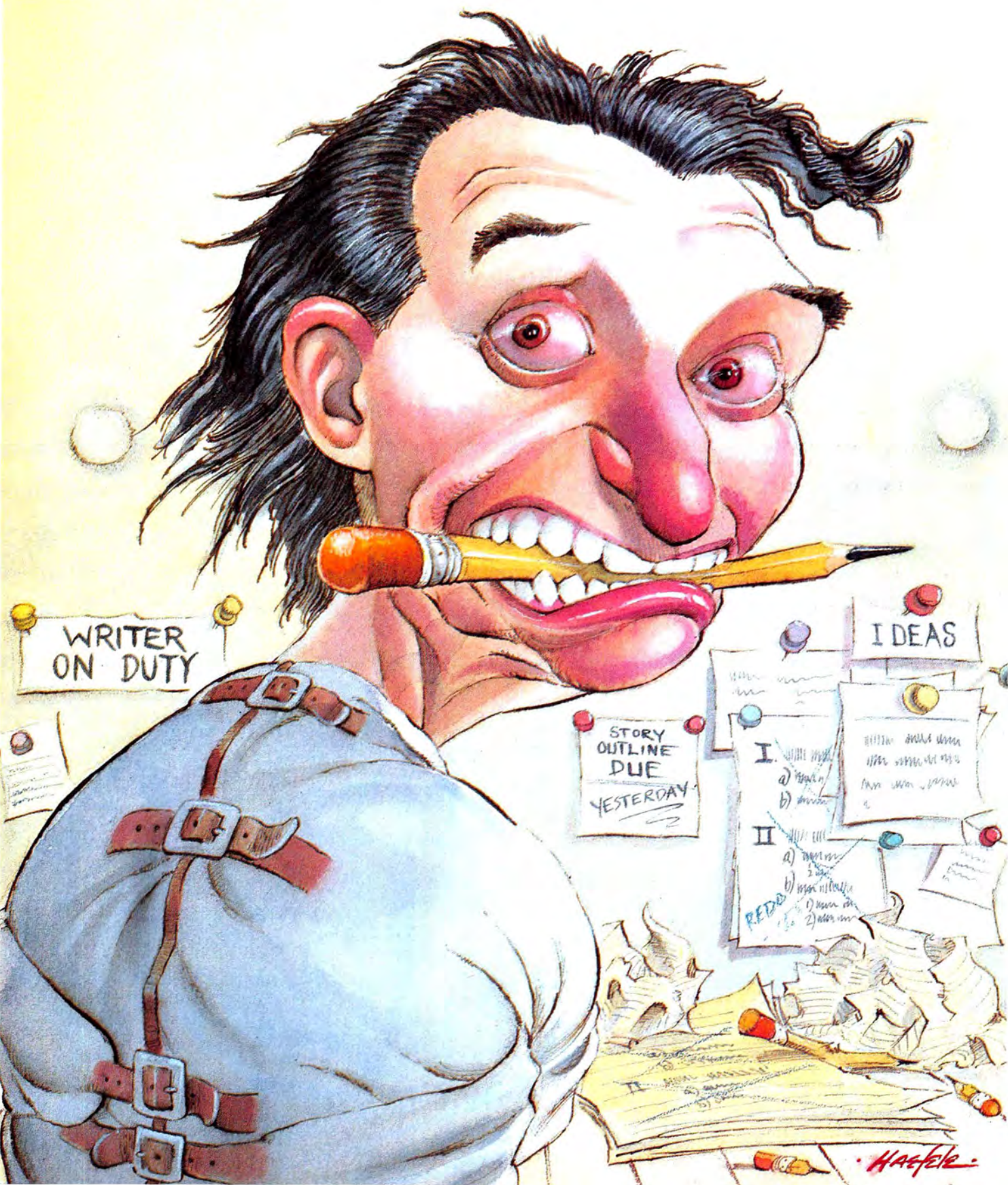
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WRITER
ON DUTY

STORY
OUTLINE
DUE
YESTERDAY

IDEAS

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Out of Your Mind

A PROGRAM THAT COMBINES OUTLINING and word processing is a natural for writers, managers and others who have to juggle ideas and facts into some kind of order. These people don't need the kind of printing and formatting power you find in *Word*, but they do need editing and organizing power. Unfortunately, it's hard to find one program that can do both jobs. Outlining programs, like *MORE* and *Acta*, are great tools for brainstorming and organizing ideas, but they lack what's needed for heavy-duty writing and editing. Word processors have the editing tools but not the brainstorming and organizing tools. And *Word* 3.0 promised an integrated outliner but delivered a toy.

Enter *MindWrite*, the first program to offer truly integrated outlining and word processing. The original *MindWrite* 1.0 had a number of

MindWrite changes its image. Are its new features worth its new price?

problems, but MindWork Software went back to work and produced *MindWrite* 1.1, which seems to be free from the screen quirks and crashes of the earlier version, doesn't lose characters if you're a fast typist, and loads, saves and prints more quickly than before. In addition, *MindWrite* 1.1 adds some new features, including a search option that will work with the *MacLightning* spelling checker (now in a new version published by its original developer, Den-

eba Systems, and with a new name, *Coach*), support for *AppleShare* and support for large screens and the *Stepping Out* screen extender.

OUTLINING THE SUBJECT

MindWrite can do most things you expect an outliner to do — such as create hierarchical outlines, rearrange them and hide some entries so you can concentrate on others. But its outstanding feature is its seamless integration of outlining and word processing. *MindWrite* has no "outlining mode" or "word processing mode," no special document window or outline editor. If you want to modify a sentence, you just mark, delete and insert as you would in any word processor. If you want to rearrange the outline, you just grab entries with the mouse and move them.

MindWrite carries its integration even further. *ThinkTank*, *MORE*,

BY TED SILVEIRA

Out of Your Mind

and most other Mac outliners (with the exception of *Acta*) limit outline headings to one line. If you want to enter something longer — an explanatory paragraph, for example — you have to open a separate document window for the additional text. To return to the outline, you have to close the document window. To see the additional text again, you have to reopen the window, which obscures your outline.

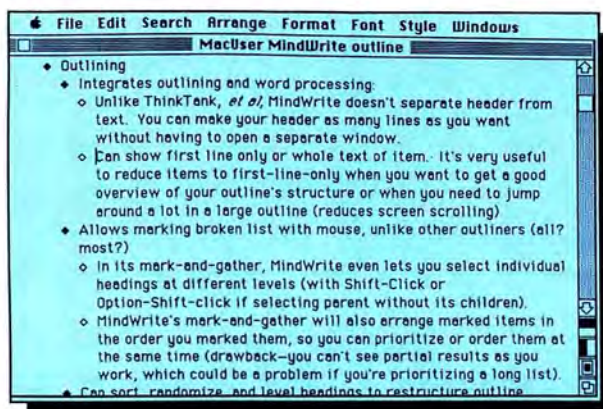
In contrast, *MindWrite* doesn't limit outline headings at all. You can make an entry as long as you want — a line, a paragraph, a page. I love this feature. If I have to fit every thought into one line or, alternatively, stop at the end of a line to open a separate window so I can finish what I have to say, I end up thinking about the mechanics of what I'm doing and lose my momentum. With *MindWrite*, I can just write.

You can have *MindWrite* show the full text of every entry or show their first lines only. With the entries collapsed, you can see the structure of your outline more clearly and move around the outline more easily. You'll also find it useful to collapse some entries just to keep them out of the way while you concentrate on others.

MindWrite has another advantage over other outliners: It lets you mark two or more widely separated outline entries, even entries at different levels, without marking all the entries in between. (*MindWrite* calls this a "disjoint selection;" I think of it as a "broken list.") If you move one of the marked entries, *MindWrite* will gather the others together with the first in the new location. This mark-and-gather is much quicker and simpler than moving the entries one by one.

When you do a mark-and-gather, *MindWrite* also rearranges the marked entries, listing them in the order in which you marked them. You can use this added feature to arrange a task list into order of priority, for example. It's not as powerful as a dedicated prioritize command would be, but it works well for short lists.

MindWrite offers other commands for rearranging your outline,



A typical *MindWrite* outline, showing entries at several different levels. Each entry can be longer than one line; considerably longer if you want. Note the window sizing buttons at the bottom of the vertical scroll bar and the lack of any horizontal scroll bar.

MindWrite doesn't limit outline headings at all. You can make an entry as long as you want — a line, a paragraph, a page. I love this feature.

too. You can sort marked entries in ascending or descending order, and if you've marked a broken list, *MindWrite* will gather the marked entries together before it sorts them. You can also shuffle (randomize) a list or flatten it (move all the marked entries to the same level). On the whole, *MindWrite* has a powerful set of outlining commands. But all is not perfect; *MindWrite* also lacks some features you'd expect an outliner to have.

When you're creating new outline entries, you can insert a new entry at the current level by pressing Return. But like most other Mac outliners (except *Acta* again), *MindWrite* offers no one-keystroke command to insert a new entry subordinate to the current one, something most people do frequently. Instead, you have to insert the entry at the current level and then move it — two keystrokes instead of one. Ditto if you want to insert a new entry on the level above your current entry. It's not a big deal,

but it gets irritating after 20 repetitions or so.

Also, you can't select outline entries directly from the keyboard. If the cursor is at the beginning of an entry, you can move the entry right or left with single keystrokes, but you can't copy it, cut it, delete it or do anything else that requires selecting it without reaching for the mouse. The mouse is a fine tool, but I don't like having to move my hand from the keyboard for some simple task.

And *MindWrite* offers no quick and direct way to set the number of outline levels shown on the screen. You can show or hide all the subordinates of an entry by double-clicking on it. You can select your whole document and then show or hide all its entries. Or you can go to the Select dialog box, select every entry at level 3, say, and then show or hide all those subordinates. But I haven't found any quick and simple way to tell *MindWrite* that I want to see, for example, levels 1, 2 and 3 only. Again, the problem may seem minor, but it's the ability to jump quickly and easily to different views of an outline that gives outliners much of their power.

There are also rough edges in *MindWrite*'s SHOW FIRST LINE ONLY command. If you collapse entries to their first lines, then use the arrow keys to move from one entry to another, *MindWrite* will expand the entry you just moved from, showing all its text. It makes some sense for *MindWrite* to open the entry you move to — you might want to work there — but it makes no sense to expand the heading you move from.

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Out of Your Mind

Again, if you select the entire document and then collapse all the entries to their first lines, *MindWrite* moves you to the very beginning of your document, regardless of where you were previously, and it forgets the last insertion point, so you can't jump directly to your previous spot — you have to scroll. Yet I often want to keep working in just that spot.

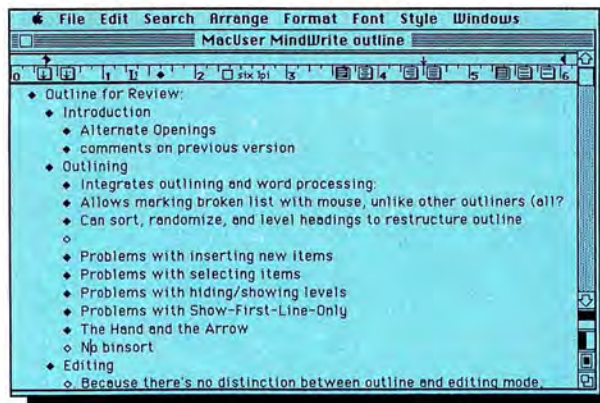
MANAGING EDITOR

MindWrite's integration of outlining and word processing benefits its editing functions as well as its outlining. If, for example, you need to move a paragraph, you grab it with the mouse and drag it where you want — you don't even have to double-click to select it. And *MindWrite* offers other innovative editing features as well.

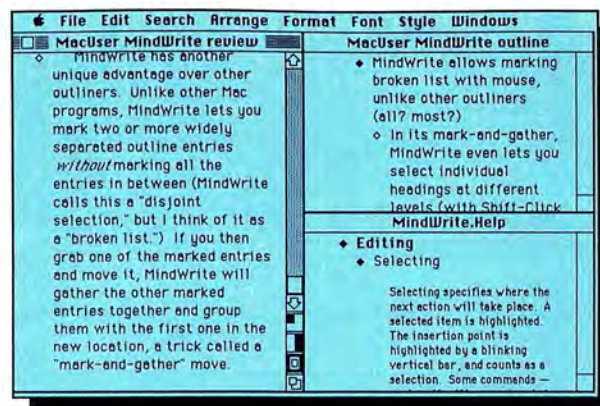
With *MindWrite*, you can open as many windows as your Mac's memory will allow, each with a different document or a different view of the same document. Along with the standard Mac sizing box, each window also has preset sizing buttons you can click to quickly size a window to any half or quarter of the screen, vertically or horizontally. These buttons tile the windows (arrange them so they don't overlap), making it possible to work with several windows without the usual clutter and window-dragging. When you resize a window, *MindWrite* rewraps the text to fit the new window margin instead of the ruler margin (unless you tell it not to) so that your lines don't get cut off at the edge.

The quarter-screen windows are small, but the half-screen windows are very handy. While writing this review, I kept the article itself in a full-screen window in front. Underneath, I kept my notes in a vertical window on the right half of the screen and the *MindWrite* Help file in a second vertical window on the left half. When I needed to refer to my notes or to the Help file, I just clicked a button to tile the top window to one side or the other, revealing the document I needed underneath — sort of like sliding closet doors.

MindWrite has a unique cumula-



The same *MindWrite* outline with all the entries now collapsed to show their first lines only. By collapsing entries this way, you gain a much clearer picture of the structure of the outline.



Through *MindWrite*'s preset window sizing buttons, you can quickly tile windows on the screen by halves or quarters, without overlapping. You can also resize a window using the standard sizing box in the lower right corner.

tive Clipboard. It appends each new cut or copy to the Clipboard instead of erasing the previous contents. You can edit, search, save and even print the Clipboard, like any other document. You gain extra safety with this feature — all your cuts are stored until you manually clear the Clipboard — and you can also save a lot of jumping around by cutting a batch of paragraphs to the Clipboard at once and then pasting each one back when you need it. You do have to purge the clipboard occasionally or it becomes so large it slows the program down.

The selection and search commands are among *MindWrite*'s most powerful editing features. Through the Select dialog box, you can select from headings or headers and footers, and select by level or by time of last modification. You can select from the whole document, from the entries already selected (to refine a previous selection), or from the entries not already selected, and you can have the new selection added to currently selected items. Once you've selected the entries, most of

MindWrite's other commands, such as HIDE SUBORDINATES, can act on the selections.

To go along with its selection options, *MindWrite* has a powerful search command. You can search (or search/replace) forward or backward, have the search stop at the end of the file or wrap around to the beginning, ignore case or not, look for whole words only or not and search headings only, open entries only or selected entries only. Once you've specified a search, you can execute it again directly from the keyboard with either FIND PREVIOUS or FIND NEXT.

If you specify FIND ALL for a search, *MindWrite* will collect every entry that contains your target word or phrase in a new window. You can then edit the results, save them, print them or refine them by using the select or search commands again.

The previous version of *MindWrite* had problems with the *Mac-Lightning* spelling checker because its Find dialog box obscured the screen. The new *MindWrite* has an alternate dialog box that it calls

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TECHNICAL PAPER

#872367

kind of delay potentially unaffordable. A single such delay could not only wipe out the savings of these tires on that unit, it could lose a valuable, profitable customer, thereby substantially reducing revenue.

Fixed amortization is another difficulty facing wide-base tires. These tires cannot be used on their axles due to their lateral wet traction problems and propensity for irregular wear caused by light handling. Fleet managers would have to purchase a conventional type of tire for the steering positions. The problem with that is retrofits are not generally used on steer axles and the retrofitted tires wouldn't fit at any other position.

Equipping today's trucks with wide-base singles is also costly from a purchase tax standpoint. Since the Federal Excise Tax (FET) for a 312-pound 16.3R22.5 is \$71.50, the total purchase price of the wide-base single, though only 5% more than a standard radial, is now much closer to the cost of two low profile tires whose total FET is \$48.00. The small price advantage, as well as some of the cost savings of the wide-base singles, can be more than offset currently by the added cost of the special axles and wheels they require.

Wide-base singles may be the tire configuration of the future. New materials and constructions could increase their value while new tread designs and compounds may reduce their disadvantages. Should a reli-

able, self-sealing liner be developed to eliminate equipment downtime and freight delays, the acceptance of this type tire would be appreciably accelerated.

To summarize, the following is what we consider realistic and achievable in five to ten years:

Low Aspect Ratio Tires. These must exhibit reduced rolling resistance, weight and able to increase vehicle payload and decrease fuel consumption. Fleet operators will want to choose between dual low profile tires for other than steering positions or low aspect ratio wide-base singles, which offer further advantages in weight and rolling resistance over dual low profile tires.

Hardware for Low Aspect Ratio Tires. In order to maximize these tires' performance, truck manufacturers must design equipment to fully accommodate the smaller diameter tires. As soon as practical, suspensions must be redesigned to be compatible with the springing characteristics of radial tires. Reduced tire size may also create a need for redesigned transmission and drive axle gearing.

Hardware for Wide-Base Tires. Axles will have to be lengthened to accommodate these tires correctly under 102" wheelbases. The added room afforded may provide for more design creativity in the brake and sus-

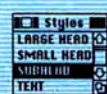
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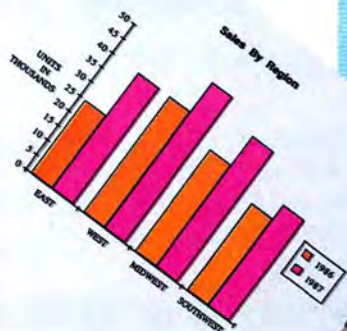
an entire story or document in a single operation.

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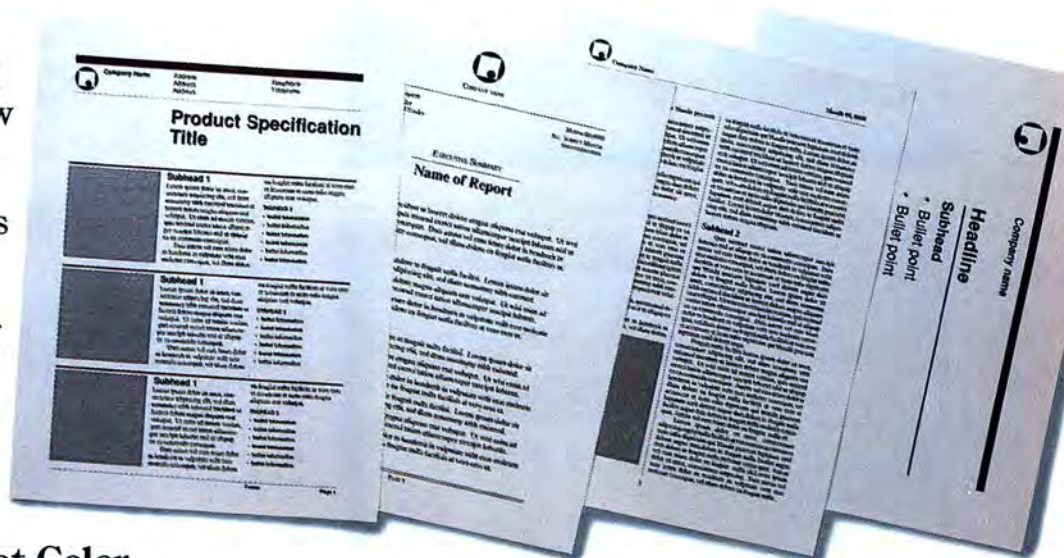
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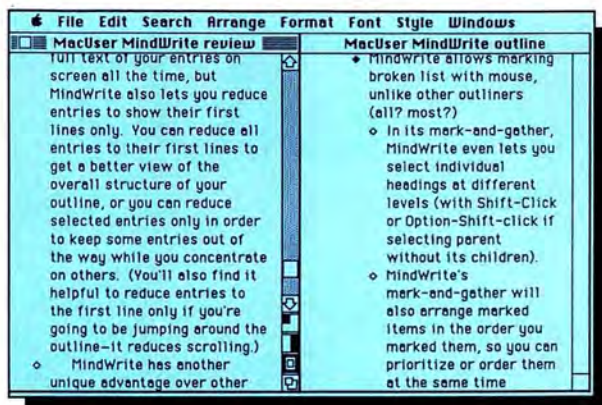
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Out of Your Mind



One advantage of *MindWrite's* window-tiling buttons is that you can get easy access to windows underneath the current one. Here the top window has been tiled to the left to reveal a half-screen window of notes underneath.

the screen. *MindWrite* isn't abysmally slow, but it's not peppy either.

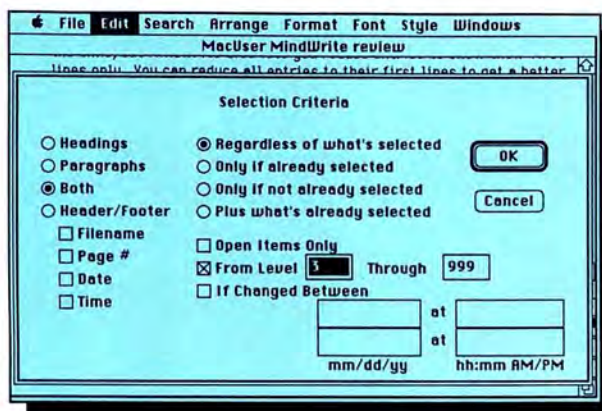
MindWrite offers keyboard equivalents for many commands, but surprisingly, it's missing some crucial ones. It's difficult to believe a program that has a keyboard command for calling the Page Setup dialog box doesn't have keyboard commands for selecting characters, words, lines, sentences or paragraphs — basic editing commands that people use constantly. I'd much rather select a word from the keyboard and use the mouse to get Page Setup than vice-versa.

MindWrite also uses some unusual key assignments: Command-K for FIND, Command-F for FIND NEXT and Command-W for WRAP TO WINDOW, for example. A developer shouldn't necessarily use a particular set of key assignments just because other programs do. But common key assignments do make programs easier to learn (and remember), and there doesn't seem to be any advantage to *MindWrite's* variations in this case.

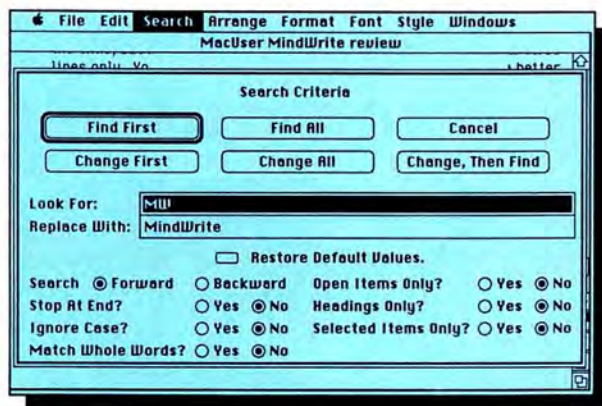
MindWrite has another quirk, too — its windows have no horizontal scroll bar. Instead, *MindWrite* gives you the option of having text wrap to fit the ruler or to fit the window. If you wrap to the ruler, *MindWrite* will fit lines to the ruler settings even if the right margin is off-screen (so you won't see the ends of the lines). If you wrap to the window, *MindWrite* will wrap every line at the edge of the window so that you can see all your text. In practice, this system works pretty well — most *MindWrite* users will be more concerned with writing and editing than with fancy formatting and so will have the program wrap to the window. However, if you do have *MindWrite* wrap to the ruler and then start adding new text, your cursor will move off the screen when you hit the right edge of the window, leaving you blind to your own typing. Not fatal but disconcerting.

SHAPE AND OUTPUT

MindWrite doesn't have the extensive formatting power of *Word* or *WriteNow*, but it can still do quite a bit, including the usual multiple fonts, boldface, italics and so forth.



The Select and Find dialog boxes are a bit daunting at first, but they show the extensive options *MindWrite* offers. You can also combine the two easily — searching only selected items or selecting only from search results — to work wonders even on very large documents.



when it recognizes *MacLightning* at work.

MindWrite also offers a special function called Mark that will mark every entry changed since a certain date by placing a vertical bar in the margin.

These change bars are very useful for lawyers, negotiators, technical writers and other people who need to track document revisions.

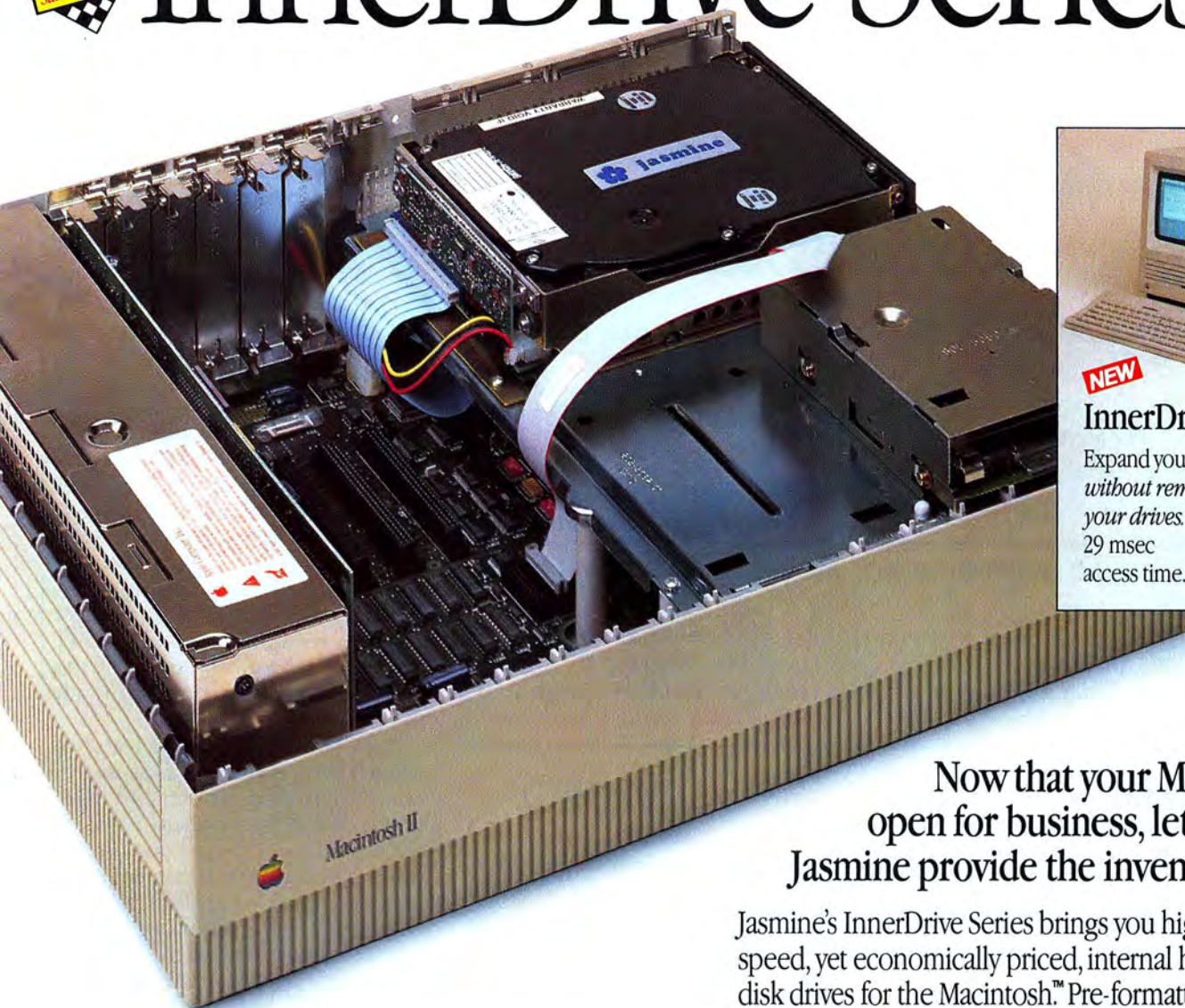
Other useful editing features in *MindWrite* 1.1 include a built-in word count, support for large-screen monitors and Berkeley System De-

sign's *Stepping Out* screen extender and 13 new keyboard command equivalents.

As is the case with its outlining, though, there are holes in *MindWrite's* editing features. Though *MindWrite* 1.1 is faster than the original version, it is just about on a par with *MacWrite* and slower than *Word* at scrolling, making global font or word changes, rewriting the screen and similar functions. And though it doesn't lose characters even if you're a fast typist, it does sometimes fall behind in updating

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Out of Your Mind

You can insert graphics as individual paragraphs and resize and reposition them once inserted. You can create headers and footers and insert graphics in them, too.

MindWrite can show page breaks on screen, though it defaults to page breaks off (because the pagination slows down editing). It lets you insert rulers at any point in the text and use a different ruler for each outline level, if you want. It can create a table of contents for the document, and at print time, it can print the full document, headings only or open entries only.

MindWrite can do ragged right, ragged left, centered and justified paragraphs along with line-spacing of 1, 1½, and 2 lines. It can't do variable leading, kerning or other desktop publishing tricks, and it can't do footnotes, indexing or multicolumn formatting. Although these features are vital to some people, I don't think they'll be much missed by the audience *MindWrite* is primarily addressing.

Aside from these missing features, *MindWrite*'s main weakness in formatting is its ruler system. Like *MacWrite*, *MindWrite* embeds rulers in the text. However, since you can develop a multilevel document with different rulers controlling the formatting at each level, it can be difficult to remember which ruler settings are in effect for any particular paragraph. To find out, you have to scroll back through the text to find the nearest ruler set for the level you're working on — very tedious. *MindWrite* should at least let you see the ruler controlling the current paragraph without leaving your position.

ON FILE

Along with its own special format, *MindWrite* can read *MacWrite*, *ThinkTank*, and text-only files and write *MacWrite* and text-only files. It can open multiple files, as many as memory allows, or multiple versions of the same file. It also lets you delete disk files without leaving the program, and lets you launch another program on exit without going through the *Finder*.

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Out of Your Mind

MindWrite offers keyboard equivalents for many commands, but surprisingly, it's missing some crucial ones.

good manual, complete with a useful tutorial, an introduction to its features, a complete reference section and some sample files. It has on-line help in the form of a Help file you can call from the Apple menu or read directly. This help function isn't context-sensitive, but it's better than nothing. *MindWrite* has a technical support line for registered users (not toll-free). They seem to answer their phone quickly and know the product well.

SUMMING UP

MindWrite 1.1 is a major improvement over the problem-ridden version 1.0 — it not only fixes the outstanding problems but also feels solid where the earlier version did not.

MindWrite's outstanding feature is its effortless integration of outlining and word processing, an integration that *Word*, for one, has never dreamt of. Add to this its multiple windows with their slick tiling, its sophisticated search and select options, its cumulative clipboard and its mark-and-gather, and you have a program that could be a major hit with writers, managers and others who work with words and ideas.

MindWrite lacks some features we've become accustomed to seeing in high-end word processors — it doesn't do multiple columns, kerning, footnotes or indexes. But *MindWrite* is a thinker's tool, not a desktop publishing tool, and I don't believe these missing features will be important to its intended audience.

However, *MindWrite* does lack some other features that *will* be important to its audience. How can a program with such extensive selec-

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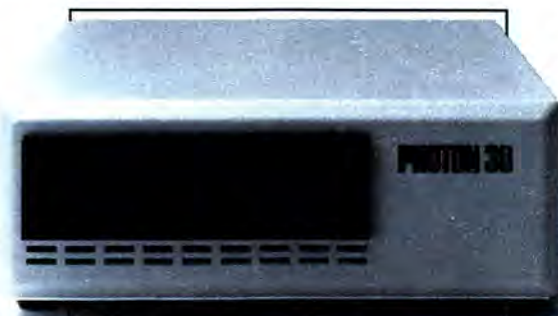
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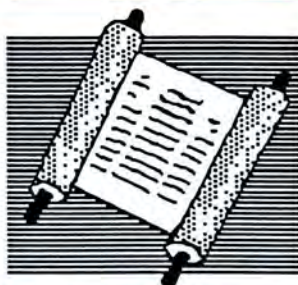
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Out of Your Mind

tion options fail to have a keyboard command for selecting a single word or character? How can a program that lets you move a broken list and prioritize it at the same time fail to give you a quick and easy way to change the number of outline levels you see on the screen?

Taken one at a time, most of the criticisms I have of *MindWrite* seem minor, like the missing keyboard commands or illogical behavior in the SHOW FIRST LINES ONLY command. They are, many of them, little things that, while they don't keep me from working, make using the program less convenient than it should be. But these little editing and outlining tasks are exactly the things I have to do dozens of times a day, the things that I want to be able to do quickly, easily, without a second thought or a wasted motion. I may call up *MindWrite's* Select dialog box two or three or even half a dozen times in an 8-hour day and be impressed by it each time. But in the same 8 hours I'll need to select a word or short phrase 50 or even 100 times.

In short, for all its fancy footwork, *MindWrite* stumbles over details. ☒

TED SILVEIRA IS A FREELANCE WRITER WHO SPENDS MOST OF HIS DAY WRITING AND OUTLINING. HE ALSO HAS A LARGE COLLECTION OF HAWAIIAN SHIRTS.

MAC USER RATING

MindWrite

Follows Mac Interface	■	■	■	□	□
Printed Documentation	■	■	■	■	■
On-Screen Help	■	■	■	□	□
Performance	■	■	■	■	□
Support	■	■	■	■	□
Consumer Value	■	■	■	□	□

Comments: Aimed at people who work with words and ideas, *MindWrite* integrates outlining and word processing better than anyone. Version 1.1 fixes many problems of the previous version. **Best Features:** Seamless integration of editing and outlining, sophisticated search and select options, disjoint selection of paragraphs, cumulative clipboard. **Worst features:** Lack of keyboard equivalents for frequently used commands, unimpressive speed, embedded rulers. **List Price:** \$295. MindWork Software, PO Box 2223 Monterey, CA 93942. (800) 367-4334. Not copy protected.

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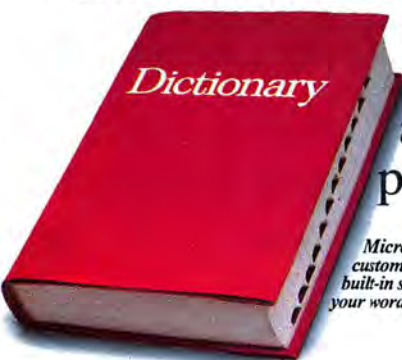
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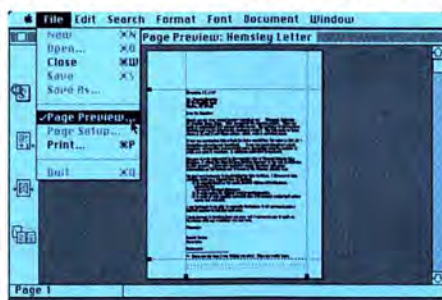
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Microsoft Write

Inside Scoop

DESKTOP PUBLISHING IS THE HOTTEST "hot button" you can press when it comes to talking about the Macintosh and tasks it can perform. The fact that the Macintosh allows anyone to format a professional-looking document, is to many people the most amazing and promising aspect of the computer. But although the Macintosh has capabilities in this area far surpassing those of just about any other microcomputer, it must depend on the software program being run to take full advantage of these capabilities. And, particularly in desktop publishing, no matter how many capabilities a program can access, it must do so in a reliable and easily comprehended manner.

Scoop from Target Software is the newest in this genre of desktop publishing programs. In many ways it may be the most powerful. But as to reliability and ease of comprehension, it still has a way to travel on the road toward becoming a software classic.

I used *Scoop* intensively for a 2-week period putting together a PTA newsletter for my local school district. While I have reviewed many programs in my lifetime as an editor and writer, I have seldom had the opportunity to use one to the extent that I used *Scoop*. I think that this is important for the review of a desktop publishing program: to use the program in the same pressure-cooker environment of deadlines, copy and art and design decisions that a typical user will be faced with.

Publishing is an art, but it is not a "fine" art. It is often a business, and almost always a time-dependent one. A program like *Scoop* must answer

Could Scoop be the program that supplants PageMaker? Not this version, sorry to say.

the needs of not only having produced an excellent, professional-appearing product, it must also have produced that product in a manner that is conducive to making the next series of deadlines in the next project.

Here's the scoop on what I found out about *Scoop*.

GETTING STARTED

Scoop arrives with three supporting pieces of documentation. The short manual entitled *Learning Scoop* is a very brief tutorial journey that will introduce the program and its most basic features. It's one of those learn-by-doing tutorials that must be followed on screen. It took about an hour to go through but by that time, I had learned the basic concepts. This part of the documentation is excellent as an introduction.

The *Reference Manual* weighed in as much heavier than the tutorial at just under 175 pages. But, as I'll detail below, the manual left me with many unanswered questions and it led to many points of confusion.

The third document, *Quick Reference Guide*, is a seven page pamphlet which simply lists keyboard equivalents to menu commands.

The best way to start any publication, or a review for that matter, is to

begin at the beginning. To begin designing a publication with *Scoop*, you launch the program and immediately find yourself within the layout process.

The *Scoop* screen is divided into a main window in which you see your publication take form, and surrounding, smaller windows, or "palettes," of various iconized "tools." And, of course, the main menu bar stretches across the top of the screen. One disappointment if you're using more than one monitor on your Macintosh (I have two on my Mac II) is that none of *Scoop*'s windows or palettes can be moved to the second screen.

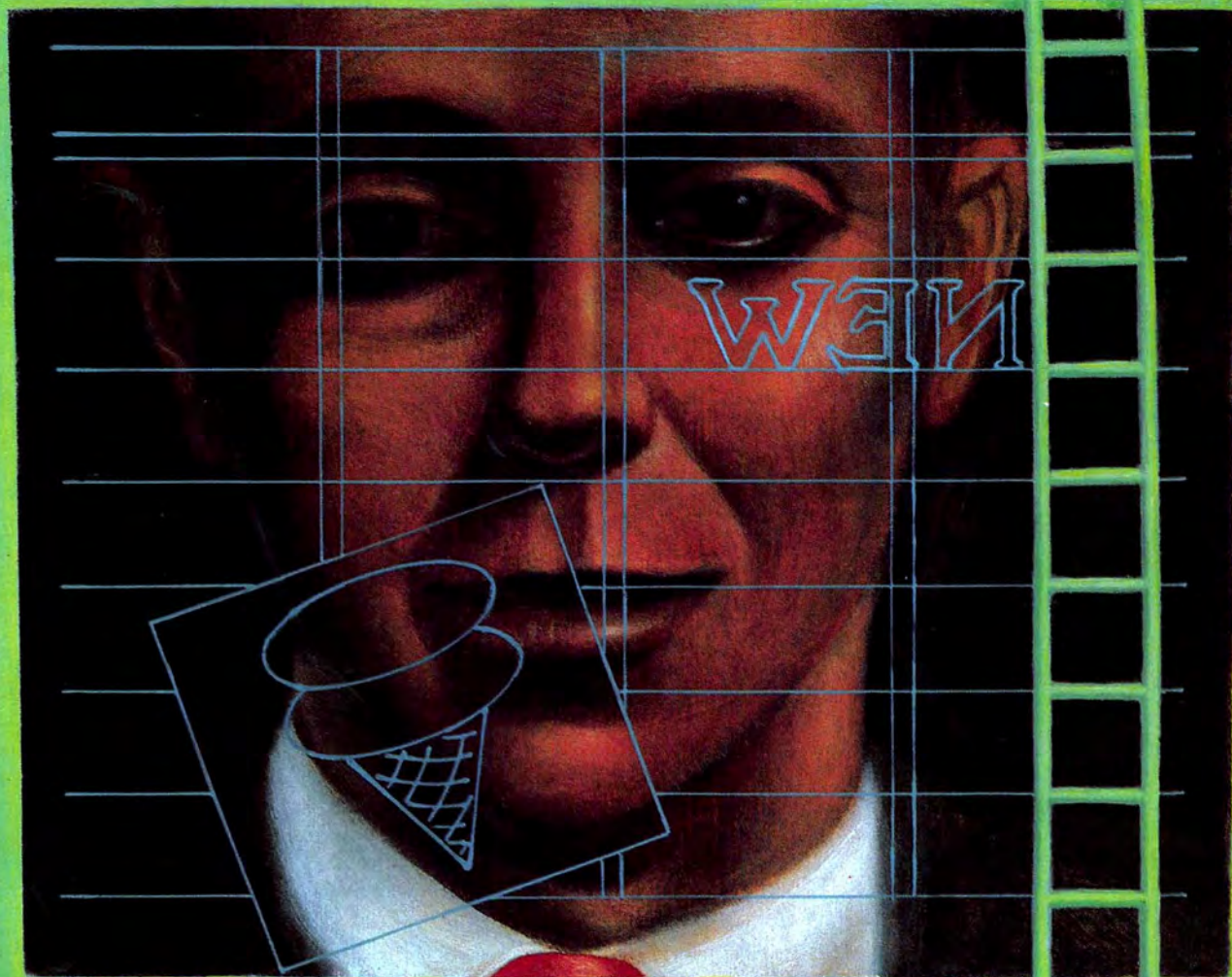
The first step is to tell the program the size of the publication you are planning on. To do this, go to the Layout menu and select CHOOSE DOCUMENT SIZE. You get a Document Size dialog box, where you indicate your document's size.

You then choose either to have a scratch page and a master page, or a master left and master right page or whether to start with a title page. A scratch page is a work-only area. That page can have whatever guidelines or overall graphics you decide upon but it can't be printed. It's used for fitting copy and generally trying out various different "looks" for a page.

Master pages can help define the overall look of the publication without the need for repetitive layout tasks. If a thick rule is wanted at the beginning of every page it should be positioned on the master page; it then shows up on all pages.

This became the first problem area I ran into. Both the manual and common sense indicated that it should be possible to have a master page/

BY NEIL SHAPIRO



Inside Scoop

scratch page setup that did not require a master left/master right page setup. After all, an overall master page could and should be common to both right and left hand pages.

However, I was unable to set the program to run with a scratch page and a master page without also auto-selecting the right/left master page choice. While this was easily gotten around (in my case I simply kept the right and left master page contents blank), it was confusing.

Once the number of pages is set, the page palette (next to the main window) fills with numbered boxes which represent the pages of your publication. To move directly to page 5, simply click the "05" icon. You can also scroll in the main window vertically or horizontally to your destination page. Finally, the page palette also has "+" and "-" icons that will flip you page by page to your destination page.

GRID LOCK

Next you need to define something called your publication's "grid." This is the network of guide lines that appears on each page to help you format pages in a manner that is consistent with the publication's overall style.

In the real world of magazine publishing, there are elite artists who make a very good living simply defining grids for large-circulation magazines, because nothing else you do will so determine the overall look of your magazine. You want the best possible grid: one that has all of the capability you'll need, but not one that will lose you in a forest of blue lines when you do layout. (The lines in real life are blue because that color is not "seen" by the offset printer's photographic cameras. It's a nice touch that, on a Mac II, *Scoop* puts these lines up in just the proper shade of "visual blue.")

Defining the grid means going to *Scoop*'s Layout menu again and choosing to SET ALIGNMENT GRID. Creating a custom grid allows you to specify how many columns and rows will appear on each page (most magazines are set up as three to six columns and one row), the top and bottom, left and right margins of the

page as well as the spacing between the columns themselves. There is also an Autogrid choice which allows automatic spacing of invisible lines at 1/8- to 1-inch intervals. But because the lines are invisible this is not a good choice for a publication. A grid, to do its job of guiding page layout, must be visible.

Scoop from Target Software is the newest in this genre of desktop publishing programs. In many ways it may be the most powerful.

Time spent in this dialog box will be well rewarded later. A hint: Take out a ruler and measure some of the constants in a magazine whose "look" appeals to you. See how much space their layout leaves between columns and other such measurements.

PLACING TEXT

Once the grid has been defined, the next step is to begin the layout process. For most publications, text is of paramount importance. *Scoop*'s method of placing text is intuitive although a bit flawed in execution.

Basically, *Scoop* allows the user to define "containers" for the text. These containers or "text boxes" are positioned on the grid. The text boxes are designed by using the Layout palette's text box tool.

How you first learn about this operation illustrates one of the main problems with the *Reference Manual*. Page 40 of the manual tells the user that to create a text box he or she must use the text box tool. Nowhere on the page is there any picture of what that tool's icon is or anything that indicates which of the palettes is the Layout palette. For that information you have to cross-reference in the manual more than one hundred

pages ahead to the chapter entitled "Scoop Palettes."

This type of weakness in the main manual would trouble me dozens of times as I slowly worked my way toward utilizing all of *Scoop*'s features. Far too often, the manual gives no definition of a term until long after the term is first used, without even a pointer to where the definition may be found. Some of these definitions may, indeed, be found in the *Learning Scoop* manual but others, as you get to more advanced levels, are not. The main manual simply fails in its job to serve as an easily comprehended guidebook.

Once you have found the text box tool (it's the icon shaped like a capital letter "T"), clicking on it results in a crosshair cursor. The crosshair is positioned anywhere on the page and dragged diagonally. A box results. I found that it was very simple to position the cursor on the upper left of a grid column's guidelines and drag it to the lower right columnar guideline. If the drag "misses" the columnar mark, the text box can be easily resized. Once formed, the text box has the familiar Mac-style selection handles on the top, bottom and sides.

The manual recommends that you use the COPY command on a selected text box to make another like it. Then you can position the new text box next to the old and have identical columns. While this method worked, it was just as easy to quickly drag the cursor to make the boxes as to move the pre-made boxes to the proper column.

Once you have the text boxes laid out on the grid, it's time to fill them with text. You can type in text right from the keyboard in any font or style and in many formats using all of the Mac's text-edit features (double-clicking to highlight a word and so forth). But most people will use a word processor to prepare text before layout begins. *Scoop* will accept text files or files in either *MacWrite* or *Word* formats or straight text files.

I used *MacWrite* files in the newsletter I prepared. After drawing the basic text boxes for a story, I filled them using the PLACE command in the File menu. PLACE has its own sub-



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Inside Scoop

menu that features both text and graphic choice: Paint files, PICT files, Abaton files, Encapsulated PostScript, *MacWrite* files, Text files and *Word* files.

LAYING IT OUT

After the file you're using is selected (in the expected dialog), *Scoop's* cursor changes into the "linking tool" icon. The linking tool is clicked in the first text box to contain the story. The text is then read off the disk. Then the linking tool icon is clicked in the next text box to be filled — even if the next box is on a different page of the layout.

If text boxes were created with the COPY command, they are automatically linked. Then clicking on the first text box fills subsequent, pre-linked text boxes. While that would have saved time, I feel that the "slower" method gives greater control over the finer details of copy layout.

Each story can have its own individual name or, as it's often called in

publishing, a "slug line" (not to be confused with a headline). You can choose to show or to hide the story names on your layout. If you choose to see them, then each text box is labeled with the name of the story it's a part of and on-screen arrows lead from one text box to the next in the sequence. None of these visual aids will print out; they are there to help track stories which run over from page to page.

While the text boxes and their placement are one of *Scoop's* best designed features from an intuitive standpoint, there are some annoying problems in their implementation in this version of the program.

The worst of these was that the Edit menu's CUT command was unreliable when deleting text boxes. Although the manual recommends this method, I found that it would result in repeatable program crashes. On both a Mac II with 5 megs of RAM and on a Mac Plus, I was never able to have better than a 50 percent suc-

cess rate in deleting text boxes without winding up staring at bomb icons. On a Mac II, which can reboot in a few seconds, this was annoying. On a Mac Plus with its longer boot time, it was completely unacceptable. I would imagine that on a Mac 512 it would shortly induce rage.

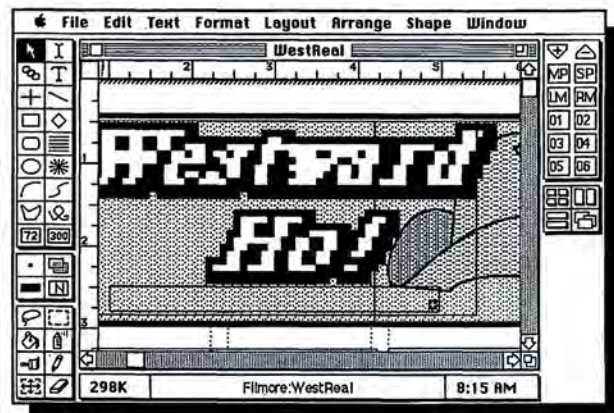
I did get around this. I finally ignored the Edit menu's CUT choice entirely and did all of my text box deletions by choosing the text box and then hitting the keyboard's delete key. That worked around 95 percent of the time. Still, a desktop publishing program has no business crashing when text is deleted. Ever.

TOURING THE TEXT MENU

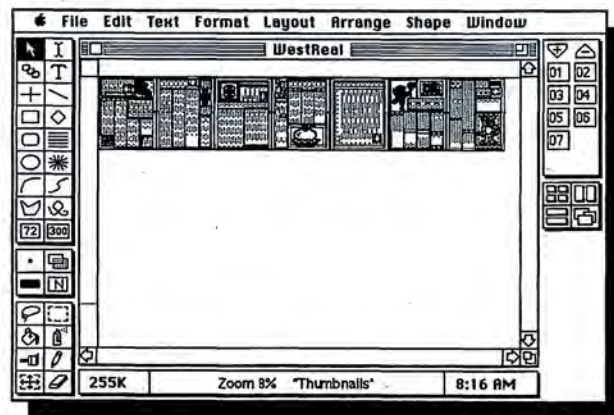
Scoop's Text menu is mammoth. All of its many choices lead to submenus. The Font and Size commands are fairly standard. The Fonts that appear in the submenu are, of course, dependent on which fonts you have installed in your *System*. The Size submenu lists the available sizes (showing which are installed by outlining those choices) and also has an Other choice that allows you to type in any size from 4 to 127 points, including fractional points. The Style menu allows you to format text fonts in plain, bold, shadow, outline, subscript and superscript; and adds to that some innovative features. For example, the *Scoop* user may also choose Box and Round text styles, which come in handy for some headline usage. The Box choice puts up a line of type surrounded by a squared-off box, while the Round choice gives you a text surrounded by a round-shouldered box. Other choices allow for strikeout as well as inverse text.

The Baseline choice allows you to adjust where the text "sits" on a line. Custom superscripts and subscripts may be quickly created and such things as extremely complex chemical formulae are fairly easy to achieve.

The Stretch choice lets type be expanded or contracted without changing its height. I found this was particularly handy in doing headlines. A headline that just did not fill the column as well as it should did fine at 120 percent. Likewise a head-



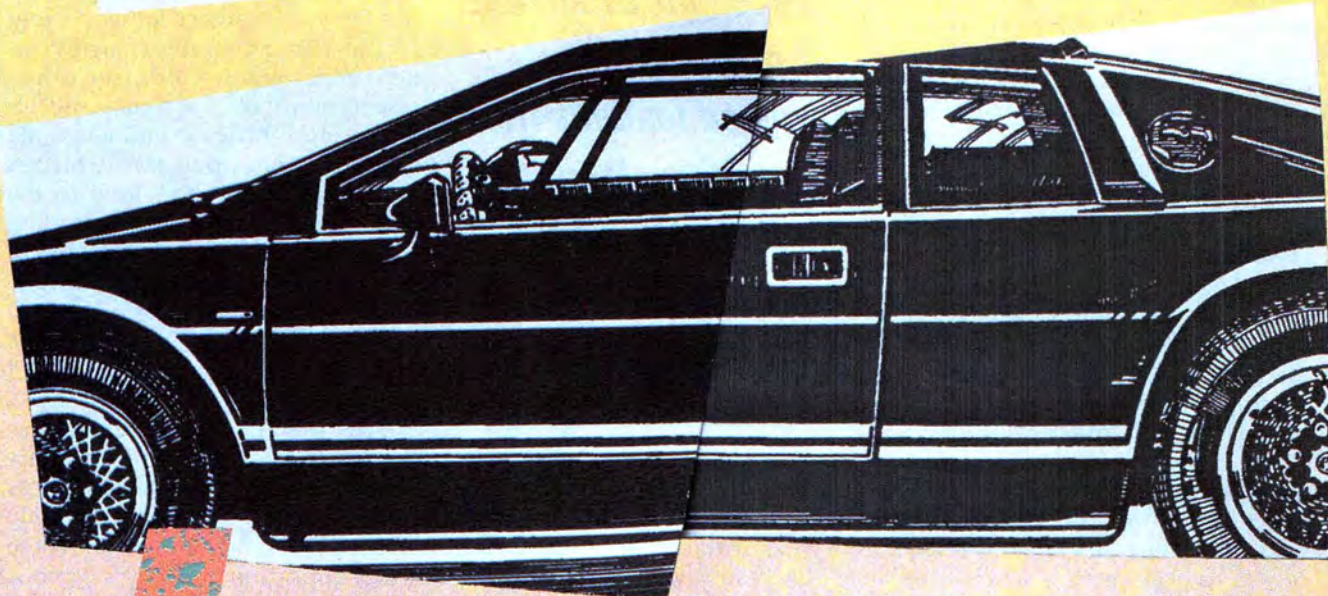
Scoop's main window is capable of showing you the document you are designing in a number of different proportions and sizes. To the sides of the main windows, in small "windoids," are the various tools and controls that are used throughout the program. *Scoop's* documentation refers to these as "palettes."



A good eye for design depends on the possibility of seeing the entire design as a unit. *Scoop* allows you to view a document as "thumbnail" (reduced) pages so that you can see how your various parts are working together in a complete publication design.



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Inside Scoop

line just a trifle too large would work well at 90 percent.

The Kern choice is one of *Scoop's* strong points for people who appreciate good typography. When a big, bold headline is the order of the day, type that looks fine at a smaller size and lighter weight can look ragged and too spread out. Printers get around this by "kerning" which means to bring certain letter groups closer to each other. Kerning gives a truly finished look to many headlines. *Scoop's* kerning controls can be applied either automatically or used manually to give different degrees of kerning to individual parts of a line or word (or even turned off entirely).

The Case submenu allows for quickly changing selected text to all upper or all lower case. Or an INITIAL CAPS subcommand forces the selected text to begin with a capital letter and the rest in lower case.

Special offers such options as automatic page numbering and the ability to time and date stamp. The time/date stamp will be of great use to someone who has a document that remains the same each time it is printed except that the time/date variables change. *Scoop* automatically updates, on printout, these time/date stamps right from the Mac's built-in clock.

JUSTIFYING YOUR CHOICES

The submenu choices in Justify allow text to be centered within the text box; to be aligned right and ragged on the left; to be aligned left and ragged on the right; or to be flush against the left and right margins. If

While the text boxes are one of *Scoop's* best designed features from an intuitive standpoint, there are some annoying problems in their implementation.

flush left and flush right is chosen (what the printing industry refers to simply as justified text), then a whole set of new subchoices becomes available.

Scoop allows a vast degree of freedom in choosing how to letterspace justified text. People who have used desktop publishing programs are familiar with the heartbreak of text "rivers." These rivers of white space are usually caused by a narrow column width and justified text with so much white space between words that the eye sees the word spacing as internal raggedness throughout the page.

Scoop gets around this by using letter spacing, which means that spaces between words are cut down to size by increasing the spaces between the letters within the words. Of course, this can get out of hand, too. So *Scoop's* Fine Tuning menu of sub-

choices will prove very welcome. The fine tuning allows you to adjust both minimum and maximum parameters for both word and letter spacing. I found that even using a narrow column with longish words (the worst-case scenario) the fine tuning and letterspacing touches would allow me to touch things up so as to achieve a remarkably "hand set" look to the type. Interline spacing or leading (pronounced "ledding" as it used to refer to the size of the metal or cast-lead block between rows of type) is also easily adjusted. Of all of *Scoop's* many features, I think this impressed me the most.

Scoop also, in this menu, features choices for both Spelling and Hyphenation. The hyphenation choices worked quickly and very accurately on both short and long stories. There is no indication in *Scoop's* various manuals as to the size of the dictionaries involved but actual usage showed the hyphenation feature to be so reliable that it wouldn't make sense not to use it.

The mechanism for achieving hyphenation is very quick and powerful, whether on a complete story or a selected section. Once the hyphenation engine completes its task each word in the dictionary with syllables indicated receives invisible "discretionary hyphens" at each syllable break. These hyphens automatically show up as line breaks as the selection rejustifies itself to a tighter, more eye-appealing framework. To top things off, discretionary hyphens may be manually deleted or added to any word.

On the other hand, the spelling checker was not as fast nor as complete in features as some of the desk accessory checkers and all of the self-contained checkers available. Again, most people will have pre-written their text in programs such as *MacWrite*, and have checked the spelling during that step of the process.

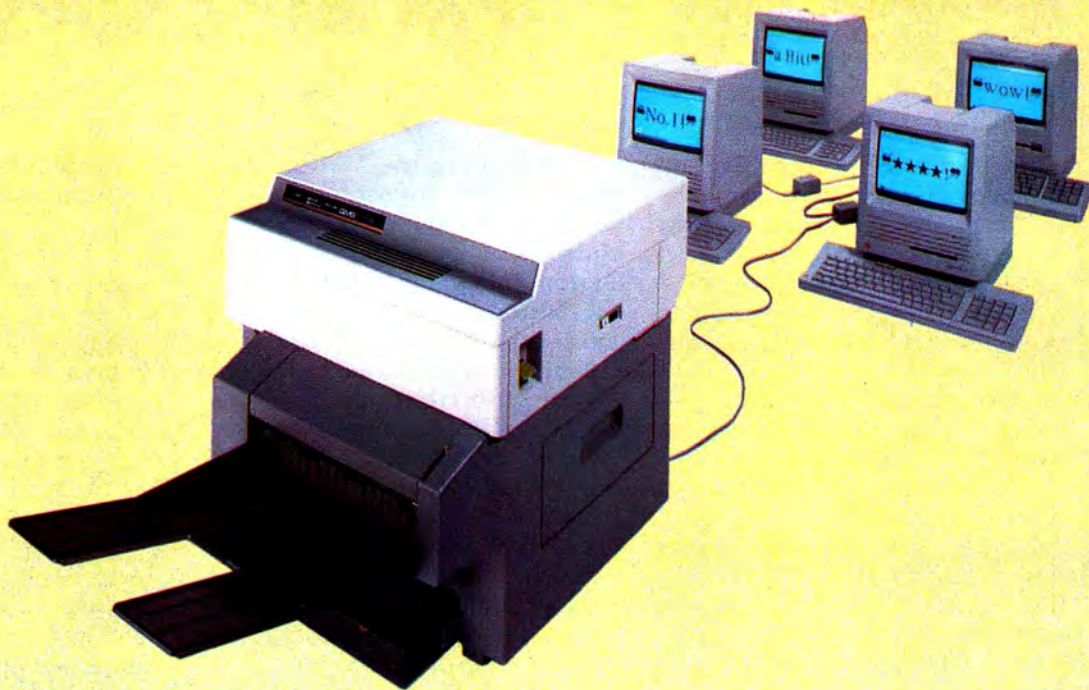
FORMATTING AND AWAY!

The Format menu does not have the awesome number of submenus that the Text menu has, but, in its own way, it is just as powerful.

The Left, Right and Indent choices refer to where the text "sits"



Scoop allows the designer to quickly access various pages. The page selection process is easy; just click in the small window containing the page numbers to instantly move to the needed page. In addition, the plus and minus signs allow page by page navigation. Both master pages (see article) and the scratch page can be accessed here.



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The QMS-PS® 800 II is an 8-page-per-minute laser printer that combines the desktop publishing power of Adobe PostScript® with the superior printer technology of QMS, a leader in printer technology for 10 years. Exceptional paper handling, faster processing speed and a Canon® CXD® print engine with 10,000-page-per-month duty cycle give QMS-PS 800 II the versatility your Macintosh™ network needs.

A network sensation QMS-PS 800 II holds 500 pages, so operators aren't constantly refilling depleted paper trays. Users can even designate automatic switching between the two trays for doing letterhead/second page printing. Select faceup or facedown collation. And manually feed odd-sized paper stock.

With QMS ASAP™ (Advanced System Architecture for PostScript) proprietary technology, QMS-PS 800 II delivers outstanding performance. In fact, the more complex the page, the more it outperforms other PostScript printers. Two megabytes of memory, expandable to three megabytes, also add to the overall page processing speed when you are creating complex documents.

Type casting The QMS-PS 800 II comes with 35 resident typefaces (you can download more if you like). PostScript allows you to scale type to virtually any size, from minuscule to mammoth. PostScript also enables you to design, and redesign, your documents with exacting detail. You have total control over the final appearance of documents, with the ability to place text and graphics anywhere on the page. In short, you get the complete desktop publishing power that only PostScript can give you.

Critical acclaim The QMS-PS 800 II is certain to receive rave reviews on your network. And for a single-user set-up, there's the QMS-PS 810 laser printer. For a demonstration of either, call **1-800-523-2696** for the location of the Laser Connection dealer nearest you. And be sure to ask for *The Sourcebook*™ – our exclusive catalog filled with the latest laser printer products and enhancements.

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Inside Scoop

in the text box container. Choosing Left allows you to set the margin between the text and the text box edge in fractions of a pica through quick submenu choices. Note that this is quite different from the margin between the text and the page edge which is set back in the Set Alignment Grid dialog box of the Layout menu. The Right and Indent choices work in a similar manner.

The Format menu features two types of tabulation. The Interval Tabs choice allows tabs to be positioned equally across the page at fractional pica measures chosen from a submenu. Simple in concept and execution, these interval tabs allow for simple tables (especially when used with monospaced fonts). The Custom Tabs setting brings up the Custom Ruler where, with the mouse, you can pick up and set your tab stops exactly where you want them to appear.

Scoop also allows you to control the vertical position of text within a

text box, using the Vertical command in this Format menu. The Middle choice centers the text with equal space above and below. The Bottom choice sets the text right on the bottom of the text box. The Flush command adds just the right amount of leading to fill the text box from top to bottom (not a good visual choice if the column will be next to another with a different leading or line spacing. It is better in most cases to use the options to adjust line spacing so that differences in line spacing between stories are not apparent on the page at all). The Top choice, the preset, puts the first line of text just below the top of the text box.

A built-in special effect can be chosen via the Slant submenu. Type can be set to slant to the left, which means to slope along the left to right diagonal of a text box. Or it can be set to slant to the right. Or selected text can be made to appear in the shape of a pyramid or an upside-down pyramid called a vee.

GETTING GRAPHIC

There are definitely times when a picture is worth a thousand words. There are also times when a picture is worth only a couple words but, what the heck, use it anyway. No matter how important the picture, *Scoop* attempts to give the user quite a bit of latitude in graphic design. While the program is not always successful in execution, the design concepts would be hard to fault.

Scoop has a number of built-in drawing tools and it allows the designer to place and size graphics from other programs or clip art.

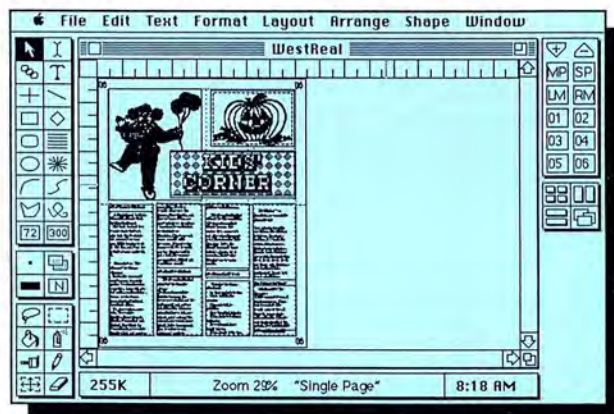
The procedure for placing a graphic image onto a page is similar to the way text is placed. Here the containers are called bitmap frames. There are two types of bitmap frames, 72 and 300 dpi (dots per inch) frames. The 72 dpi frame works best with graphics at the resolution of *MacPaint*. The 300 dpi frame contains all of the detail present in paint documents designed for the LaserWriter's maximum resolution of 300 dpi.

Importing of either style of image is easy. Again, the PLACE command is used. When a bitmap frame is selected, the PLACE command will recognize Paint, PICT, Encapsulated PostScript files and Abaton formatted files. Simply choose the graphic from the list box and it appears in the bitmap frame.

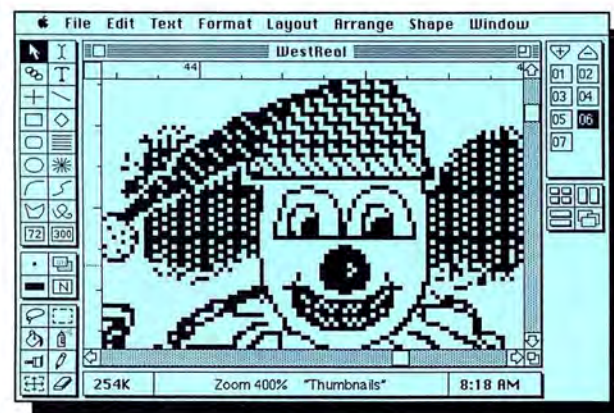
The frame can then be moved around to position the graphic on your layout grid. At this point, the graphic can be resized by using the frame's selection handles. Resizing can be either proportional or disproportional.

A useful feature is the "cropping tool." This tool (in the paint palette) removes white space from around a graphic. This allows text or graphics beneath (as in *MacDraw*, *Scoop* graphics and objects may be sent "to the front" or "to the back" of the document's layers) to show through.

Touching up a Paint graphic is easy. In fact, there is a complete set of drawing tools so the more artistic will be able to accomplish many drawings while remaining completely within the *Scoop* environment. The pencil, the paintbrush and the eraser will be quite familiar to any-



Scoop lets you reduce your work and work on it at the smaller magnification. The "single page" choice of magnification shown here lets you view a page as a complete entity. But, just as in "normal size," the designer can move graphics, resize type and access all of *Scoop*'s other features.



When working on a graphic image, it's often necessary to see the graphic in a larger, easier-to-work-with size. *Scoop* allows you to zoom in on a page at varying degrees of magnification (400% is shown here). This makes it easy to do various touch-up chores.

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Inside Scoop

one who has ever used a paint program. The one caveat here is that the lasso and selection marquee tools do not work as intuitively as in programs such as *MacPaint*. Although the selected image portions will highlight in a moving shimmer, the portions cannot be dragged within the bitmap frame. Instead, they must be cut to the Clipboard and repasted.

There are "automatic shapes" available, but they're in the Layout palette rather than the Paint palette. This is because they are not bitmap graphics but object-oriented graphics — more on this below.

Importing of PICT files and other such object-oriented graphics is also supported. These are the type of graphics produced by a Draw program rather than a Paint program. Again, placement follows *Scoop's* established procedure of outlining a container (still a bitmap frame) and then using the PLACE command to get the image from disk.

Once you've placed an object-oriented graphic, you can touch it up in various ways. You can, at any time, add shapes (rectangles, rounded rectangles, diamonds, circles, lines, polygons, freehand lines) to object-oriented graphics. And with object-oriented graphics the cropping tool becomes very powerful. It can not only remove white space (as in bitmap graphics) but it can also be used to position an object-oriented image within the frame, scrolling it in all four cardinal directions.

Now comes a bit of power and a bit of confusion. As seen above, many of *Scoop's* graphic tools are bitmap-oriented. Others are object-oriented. What happens when you mix them?

When I first tried to make a filled-in circle it was harder than I suspected it would be. I made a bitmap frame and drew a circle with the circle tool. But when I moved the paint bucket atop the circle, no dice. I realized the circle was an object-oriented shape and the paint bucket only wanted to know about bitmap graphics.

At this point the usefulness of the choices in *Scoop's* Shape menu became clearer to me. These commands allow the user to select a bit-

map graphic and turn it into an object-oriented graphic (a "picture") or vice-versa. Or you can also "blend" type or a picture with a bit-mapped graphic.

Take a look at the newsletter title (or "flag") which I generated with *Scoop*. The cowboy hat was originally an Encapsulated Postscript file (courtesy of the Quick Clip clip art people). I first drew a bitmap frame

Westward Ho!
John H. West P.T.A.

September and October Events
Sept. started with our Welcome Back Break-out for the teachers. It was great to see our teaching staff again and meet the new members. We would like to take this time to welcome our new staff members. We welcome Mrs. Tencio (kindergarten), Mr. Stadel (4th), Mrs. Jacobs (4th), Mrs. Nohs (art), Mr. Naylor and Mrs. Miller (music). Mr. Closs (Phys Ed) and Mrs. Kozner (reading). We also extend our congratulations to the former Miss Gimpel and Miss Thong who are the newly named Mrs. Kelly and Mrs. Abrams.

It was good to see all the new and familiar faces at the Sept. P.T.A. Meeting.

Picture Day was a great success. Raffle day will be Nov. 18 for snacks and absences.

Kindergarten Screening was the week of Sept. 14. It went very smoothly. Sept. 15 was the Principal's Coffee Hour, concerning kindergarten. It was a great introduction for parents of kindergarten children and was very informative to all.

Sept. 26th was our Class Spellers Test. Our class members are all set for a good year.

In October we had an afternoon and evening P.T.A. Meeting. Upcoming events were discussed. The highlights from the minutes of the meeting will be printed each month in the newsletter.

October 22nd will be the Principal's Coffee Hour. The topic is "Pencils for referring children to the building, child study team and the Committee on Special Education."

Our Fundraiser ran from Sept. 28 to Oct. 13. Our yearly Book Fair is the last week in October. Children choose from a large assortment of books. Parents can check out the books for themselves and help their children select them.

Important Date
P.T.A. General Meeting Monday, Nov. 2, 1987, 7:45 in the cafeteria.

to hold the hat. Then I imported the hat as an object-oriented graphic. Next I turned the hat into a bit-mapped graphic. Now I could use the various tools to add shading to the hat. Then I designed the type in a text box next to the shaded hat. Finally, I added overall shading above the text and the graphic and blended them together. The last step was to group all of the various parts together into a cohesive, self-contained whole.

The blending was done using what *Scoop* calls its transfer modes. These transfer modes are one of *Scoop's* most powerful features. Unfortunately, they're also *Scoop's* most poorly explained features. Basically, the user can choose transfer modes for placing graphics on-screen and these modes affect how the graphic will interact with other graphics "behind" or "in front" of it.

The transfer icon, when clicked on, reveals graphic symbols for the Boolean operators of *copy*, *xor*, *or*, *bic*, *not*, *not xor*, *not or* and *not bic*. If this looks like Egyptian to you, don't

expect the manual to provide the Rosetta Stone. Less than two pages in the manual are devoted to what should be, in my opinion, a full and long chapter. The only way to learn how these transfer modes operate, with the present state of the manual, is to do what I did — spend an entire afternoon experimenting and taking notes.

In a way it's worth it. One of the newsletter pages I did depended heavily on having a graphic appear "toned" with a blended overlay. I placed the graphic, experimented with different tones of overlays and with different transfer modes. I was able to achieve an excellent page that featured a ghostly quill pen and ink bottle overlaid with normal-weight type for a letter from the school's principal.

But what might have taken me 10 minutes to figure out (how to achieve the newsletter's main flag and the above graphic), had the manual supported me, took the better part of a day.

Some of the same confusion is present when using the RUNAROUND command to run text about the outside or inside of a graphic. Running the text around the outside of a graphic is easy and intuitive. But if you want the text to be contained within a graphic's boundaries you had best investigate how to *xor* the graphic's background with the text. It's easy to do, difficult to describe, and one more thing that the manual should have better concentrated upon.

OVERALL DESIGN

Of course, any publication is more than just a collection of pages. It is an overall orchestration of those pages into a finished product. *Scoop* allows you a lot of freedom in helping you to envision how all of the pages are going together.

Various commands allow you to view your publication in different ways. It's possible to fit one page into the window at a reduced size. Or you can reduce it slightly less so that it fits across but scrolls vertically. Or it's possible to see two pages at once, one of which can be your scratch page. You can even see your entire 'docu-

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Inside Scoop

ment at once as tiny thumbnail sketches.

I found it very convenient that *Scoop* allows you to work on a page while it is reduced in size. Such things as quickly determining if a story looks better with double-width columns or with a box around it can be done almost as fast as you can think about them. By moving made-small copy blocks around on a completely visible page, many of the benefits of having a large screen, even double-page, monitor are available even to those of us with standard sized screens.

As a person who has always tried to think of a publication as an entity rather than simply pages bound together, I really appreciated the way *Scoop* showed me the publication at various levels of magnification and viewpoint. In that regard it is a super program.

THE LATEST SCOOP

Of all the programs I have ever re-

viewed, I have the most ambivalent feelings toward *Scoop*. It's a real love-hate relationship which has developed between us. On one hand, *Scoop* has more capabilities and features than I would have imagined possible. And, as my own experience with my PTA newsletter attests, it can result in some beautiful documents that look as if they came from a professional print shop.

But...

... it bombs.

In the week or so that I worked on the newsletter I rebooted my Mac II more than in any other full month. By saving my work whenever I did something major, none of the bombs was disastrous and they never affected the template itself or any other files on the hard disk. But it was certainly annoying. Some of the bombs seemed random in nature, others were quite repeatable (for example any attempt to copy my newsletter's flag to the Clipboard always bombs the program).

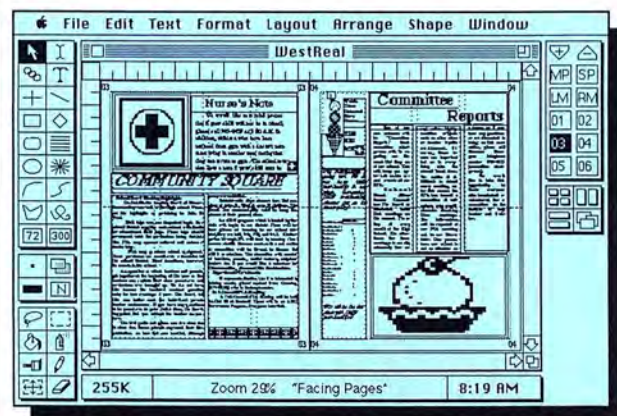
The manual is confusing, poorly organized and sorely lacking in tutorials. While the actual prose style is clear and concise, the overall design of the manual reminds me of when I was learning Olde English and had to turn to the glossary at every word in a poem. Related parts of the manual which should be together are separated, sometimes by a hundred pages or more.

I spoke to the people at Target and they do seem to be aware of many of these problems. I was told that there is a new manual in the works "with a lot of tutorials." I was also told that some of the bugs, such as bombing when CUT is chosen from the menu instead of manually using the delete key, were "missed by the beta testers" and are already fixed for the next version.

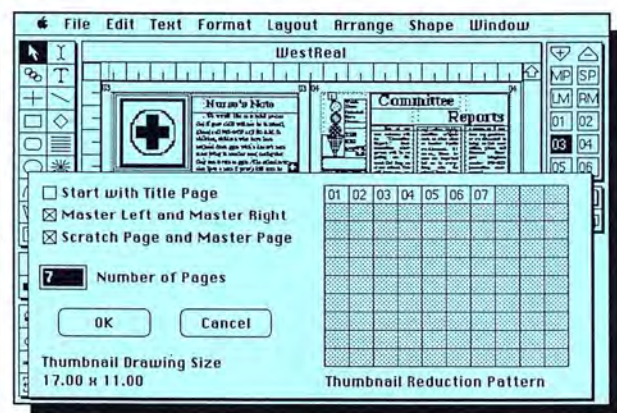
I have rated the program keeping in mind the problems caused by program bugs and the printed documentation. I suspect that Target will someday soon be delivering to us here a package that may very well rate five mice. But, for now, the program must be rated lower than that.

When I look at *Scoop* today I see a program with problems in the first version which, if overcome, could easily develop into a classic. This ballerina's first steps may have faltered but she may yet, someday, dance her way into our hearts. ☞

NEIL SHAPIRO WAS *MACUSER*'S FIRST EDITOR AND LIVES TO DO MAGAZINES.



Here *Scoop* allows facing pages to be shown next to each other. This can be very important in the case of continued stories, graphics that stretch across page boundaries or just to get a better feel for the final look of the publication.

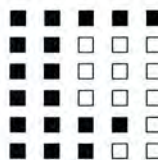


The document size dialog box is one of the key steps in defining a publication. Here the designer chooses the size in pages and whether or not master pages will be used. Master pages are very useful if the publication will contain elements which will be the same on every page.

MACUSER RATING

Scoop 3 1/2

Follows Mac Interface
Printed Documentation
On-Screen Help
Performance
Support
Customer Value



Comments: This could someday be the world's best desktop publishing program.

Best Feature: The control over letterspacing and kerning allows for extremely accurate justification. **Worst Features:** There are various ways to cause the program to bomb which need to be fixed. The manual is poorly organized and lacking in tutorials. **List Price:** \$495. Published by Target Software, 14206 SW 136th St., Miami, FL 33186. (800) 622-5483. Not copy protected.

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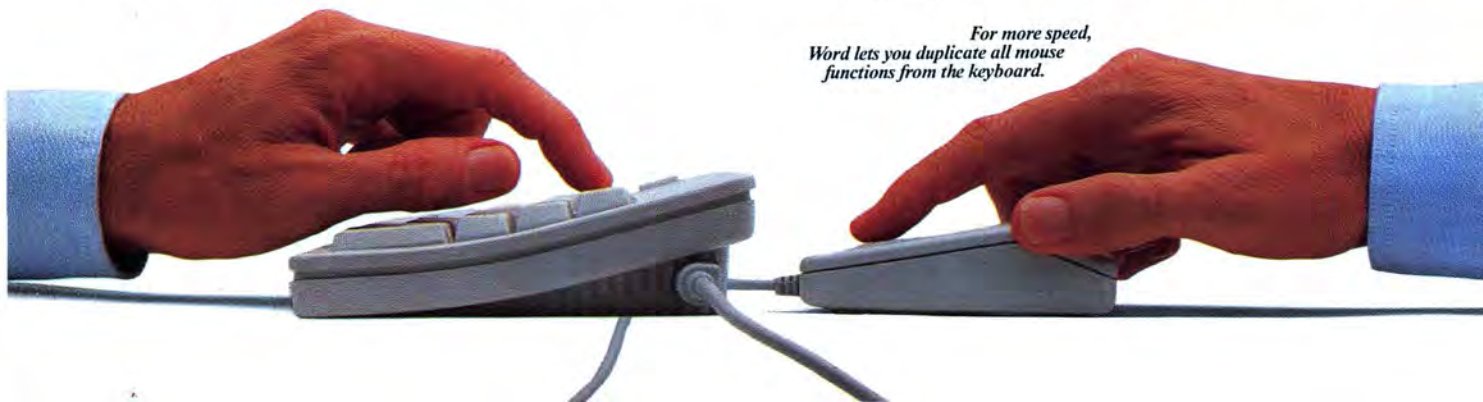
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highest concentration of owners in a single age group with 12.7 percent. The combined age group of 25-54 accounted for the greatest concentration of total bicycle sales with 55.4 percent.

Relative to population in each age group, sales indicate that there is above average interest in bicycle products in the 15-44 age categories. Sales are relatively lower, at 27.6 percent, for the younger segment (age 15-24); this is significant given the fact that the population in this segment is almost half that of the 25-49 segment.

The discrepancy between the information from Lake City's warranty registrations and the current research finds may be due to the following:

stated that the 20-24 age group had the highest concentration of interest in a single age group with 12.7 percent. The combined age group of 25-54 accounted for the greatest concentration of total bicycle sales with 55.4 percent.

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The discrepancy between the information from Lake City's warranty registrations and the current research finds may be due to the following:

- Lake City's warranty information may not reflect accurate information regarding the purchaser.
- The owner/lessee may not be the primary user of the vehicle.
- The mail survey technique used for the current research may have been biased toward older respondents.

Final Year 1988 Marketing Plan

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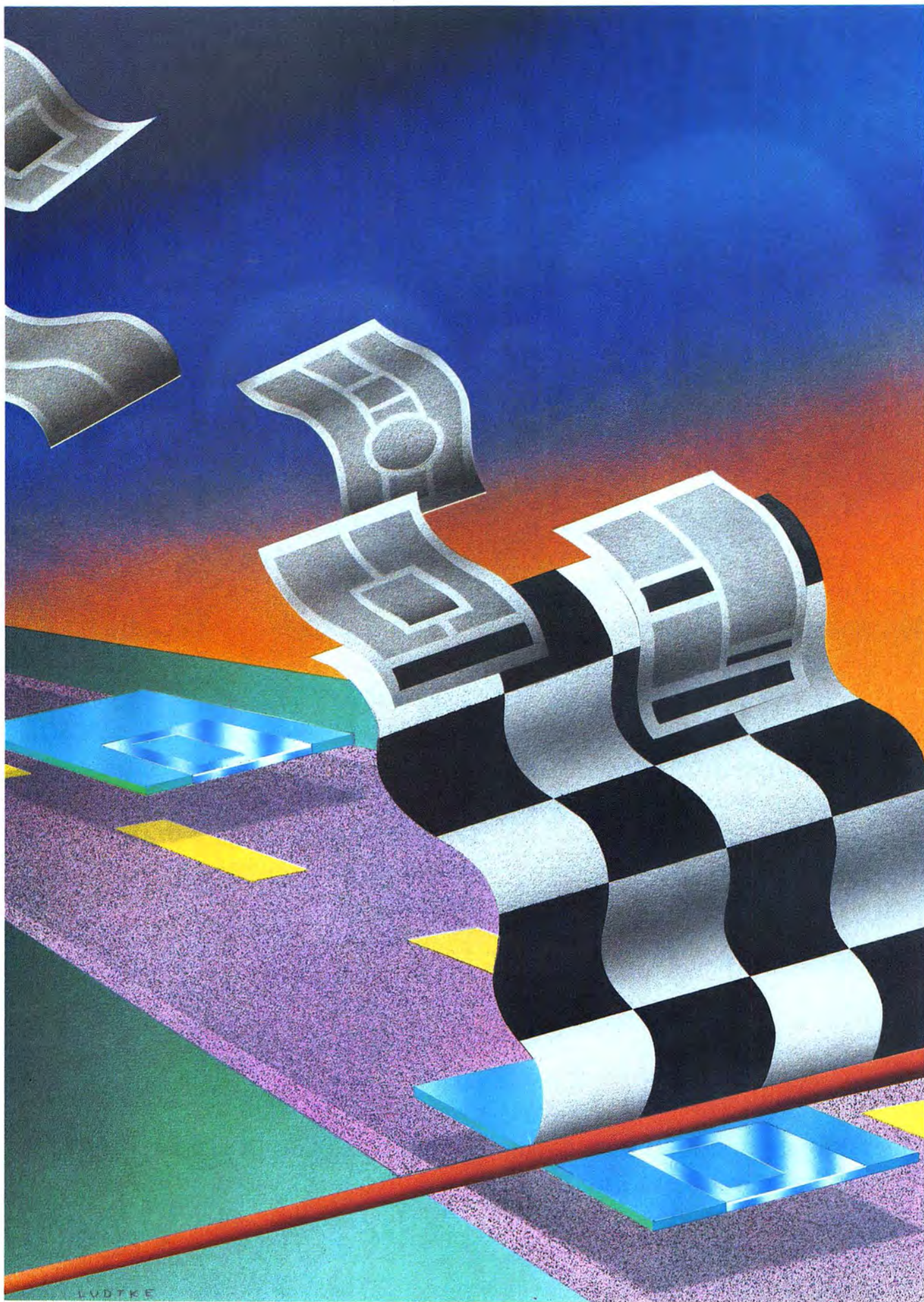


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LUDTKE

Fourth Time's a Charm

PageMaker's heir apparent is finally here. Ready, Set, Go! 4 is all go.

FOR THE PAST FEW YEARS, ALDUS HAS had a virtual lock on the Macintosh desktop publishing software market, thanks to *PageMaker*. Other software companies have mounted worthy challenges to the *PageMaker* throne. And in repeated cases, they've come up short.

MacPublisher II, for example, was powerful, but not very user-friendly and prone to bomb often. *Xpress* was perhaps the most exciting program of all, but its powerful features commanded a premium price. Plus, there were the copy protection and Linotron output problems to deal with (one Linotron typesetter in the Chicago area refuses to even *output* *Xpress* files because of the long output times).

When Letraset purchased the rights to *Ready, Set, Go!* from Man-

hattan Graphics, the desktop publishing community took notice. Letraset had the resources and the know-how to successfully market a desktop publishing program. But marketing muscle alone cannot save a flawed product, and version 3.0 of *Ready, Set, Go!* had its problems. While it used an innovative grid design and automatically wrapped text around graphics, *Ready, Set, Go!* was doomed by its inability to produce tabloid-size (or larger) newsletters.

As a result, when version 3.0 was introduced last summer, it received mostly negative reviews. Some of the negative comments were justified, some weren't.

IF AT FIRST YOU DON'T SUCCEED...

Now that Letraset has had the chance to test the desktop publishing

waters, it's obvious the company has learned from its mistakes. It's also apparent that Letraset has a great deal of faith in the new, souped-up *Ready, Set, Go! 4*.

With version 4.0, practically all of the problems of previous versions have been corrected. In addition, the program offers several new features such as style sheets and the ability to wrap text around irregularly-shaped graphic or text blocks.

HEALTHIER DOCS

Perhaps the most important "feature" of *Ready, Set, Go! 4* is its manual. Unlike version 3.0's flimsy, magazine-style user guide, the new version comes with a very well-written, easy-to-follow manual of over 200 pages. Virtually every feature of the program is spelled out, with clear, concise instructions.

After reading the guide (I'm one of those Macintosh users, I'm afraid, who actually *reads* manuals), I was very impressed by Letraset's support for this program. Not only is the

BY MIKE NIKOLICH

Fourth Time's a Charm

guide easy to read, it's also very informative, offering tidbits and notes on subjects like kerning and registration marks.

In addition to the new manual, Le-traset provides an added bonus with the software — a copy of *The Grid Book: A Guide to Page Planning* by Jan V. White, an author well-known to many graphic arts students. White has written two classics of the genre, *Editing By Design* and *Magazines By Design*, and his 69-page book for *Ready, Set, Go!* provides desktop publishers with a quick, easy-to-follow guide for designing good-looking pages.

ON YOUR MARK

As fine as the manual and White's book are, it takes more than sizzle to successfully sell a product, and *Ready, Set, Go!* 4 provides that something extra.

Not only does the program address many of the shortcomings of its previous incarnations, it also adds many significant new features which, for the moment, place it near the top of the class for Macintosh-based desktop publishing software.

Ready, Set, Go! 4 operates on any Macintosh except the 128K. The package includes three disks — the System disk, the application disk and a 400K dictionary disk. Unless you have a pair of 800K disk drives or a hard disk drive, you won't be able to use the dictionary with the program.

Like *PageMaker*, *Ready, Set, Go!* lets the user lay out pages in spreads. Page sizes can be as large as 99 X 99 inches.

Visually, the new version is similar to *Ready, Set, Go!* 3. When you open a document, the various menus appear at the top of the screen. Rulers appear in the document window across the top and left side, with scroll boxes and arrows at the left and bottom.

The tool box is located just below the menus. The tools include a pointer, text tool, insertion pointer, linking tool (for connecting text blocks), picture tool and a cropping tool. To create graphic images, there are shape tools for drawing rectangles, rounded rectangles, ovals and lines.

A pleasant addition to the tool box is a grabber tool. Functionally, it's

Although the grid system may seem confining at first, I find it more closely parallels the creative thought process than the column format.

identical to the grabber tool used in *MacPaint* and *FullPaint*, and it's helpful for precisely scrolling to an area of the page.

GRID UNLOCKED

Ready, Set, Go! was the first program to use the grid system of design. The actual grid is a series of dotted lines (either visible or invisible) that equally divide the page into blocks for inserting text or graphics. The program comes with eight preformatted sizes, but users can customize the grid for very complex designs.

Although the grid system may seem confining at first, as a writer, I find it more closely parallels the creative thought process than the column format used by programs like *PageMaker*.

Using the grids and *Ready, Set, Go!*'s fast word processor, it's possible to create newsletters "on the fly" by entering text directly into the layout. Or, if you prefer, use the GET TEXT command to capture text from any text-only ASCII files or documents created with *MacWrite* 4.5, *Word* 1.05 or 3.0, or *WriteNow* and place them directly into *Ready, Set, Go!*

Once you've designed the grid, specified page margins, number of pages and master left and right pages (for running heads, rules and automatic page numbering), you're ready to begin laying out pages.

POWER TEXT

Two of *Ready, Set, Go!*'s most powerful features are its ability to wrap text around irregularly shaped graphics or text, and its user-defin-

MONITOR

Mid-Citco Incorporated, Two Mid-City Plaza, Chicago, Illinois 60607 Fall, 1987

Mid-City Picked for '87 Baxter Selected Bank List

The Mid-City National Bank of Chicago is the largest Illinois bank to qualify for the 1987 Baxter Selected Bank List, which is distributed nationally by Baxter, an economic service based in Greenwich, Conn., that provides conservative financial advice for mature, sophisticated investors.

In order for a bank to qualify for the Baxter Selected Bank List, there must be 50 cents of liquid assets and 50 cents of capital funds, or a combined total of 60 cents, behind each \$1 of deposits.

"The number of problem institutions is at record levels," the Baxter newsletter states. "Inflexible and detrimental

Year	Other	Municipal	US Govt.	Total
1982	0	0	135	135
1983	0	0	189	189
1984	0	0	218	218
1985	0	0	224	224
1986	0	0	244	244
1987	0	0	262	262

* As of June 30; other balances are as of December 31.

Illinois bank with more than \$300 million in assets to make the 1987 Baxter list.

In 1987, Mid-City was cited as the largest "safe" bank in Illinois by the Veribanc computer center in Woburn, Mass. Last year Sheshunoff and Mid-Citco Incorporated, the holding company that also includes the First National Bank of Morton Grove and the Bank of Elmhurst, Yenerich is responsible for all commercial banking operations and investments.

"As the Baxter newsletter reported," Yenerich added, "1986 saw a substantial number of banks across

Continued on page 7

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- Jewelry Company Attracts Customers from Hawaii to Canada..... 4
- Elmhurst Memorial Hospital's Stroke Drive..... 5
- Mid-Citco Panel Provides Update on Employee Benefit Plans..... 6
- Morton Grove Bank Provides Loans to Flood Victims..... 8

tal lending practices, plus a proliferation of bad loans, have aggravated an increasingly fragile banking system. We have always encouraged clients to look for depository institutions that adhere to the same conservative principles of investing that they require of themselves."

The 1987 Baxter Selected Bank List shows Mid-City National Bank with a 50% liquidity rating and a 10.5% capital deposit ratio. Mid-City was the only

Company, a bank analysis firm, awarded Mid-City an A+ rating, making it one of the best-rated banks in the country, according to that company's measurements.

"These objective reviews by outside sources confirm that our outstanding conservative approach is appreciated by knowledgeable financial observers as well as our customers," noted Randall J. Yenerich, Executive Vice President of Mid-City

Shown is Linotron 300 output of a page created in *Ready, Set, Go!* 4. While the same page in *PageMaker* 2.0a looked much the same, both page setup and printing were faster for the *Ready, Set, Go!* version.

DaynaFile. The Search For IBM PC File Compatibility Is Over.

Tired of hacking through the jungles of MS-DOS in search of data file compatibility for your Macintosh™? Or fighting a tangle of networks, cables, and add-on cards, just to edit a simple file?

Discover DaynaFile,™ the simple, practical solution to IBM PC file compatibility.

DaynaFile is an external disk drive that lets your Macintosh read from and write to a DOS-formatted data disk.

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Purchase Requisition

QUANTITY	DESCRIPTION
1	MACINTOSH II
1	IBM PC AT

Impossible!
Warren!
Choose one or
the other—
S.

*The obvious solution
was unrealistic.*

“I would have
given up anything to
use a Macintosh, except
my PC software.”

"You can't have your Macintosh™ and PC too!" Famous last words.

People say, "Where there's a will, there's a way." Which means I don't settle for words like No. Impossible. Can't be done. No way.

So when I decided I wanted a Macintosh, but didn't want to give up Lotus 1-2-3® or dBASE® III, I naturally set about looking for a way to have it all.

The fastest fix was to buy both an IBM® PC and a Macintosh. "Not possible," said the DP/MIS manager. "Pick one. Any one you want, as long as it's MS-DOS® compatible." Witty guy.

Then I searched everywhere for someone willing to loan me a PC in exchange for executive privileges. I was willing to give up anything, but I kept hearing No. Not interested.

Without another alternative in sight, I decided to surrender and settle for a PC. Then, I discovered an article on AST's newest products—

What I like best about AST's Mac86 and Mac286:

- I retain the benefits of the Mac desktop while running DOS
- I have full access to DOS programs and data through 5.25" MS-DOS floppy drives
- I can cut and paste text from both MS-DOS and Macintosh environments
- My MS-DOS files share Macintosh hard disk volumes

MS-DOS co-processors for the Macintosh II and Macintosh SE. The cavalry had arrived.

The article said AST's Mac86™ and Mac286™ allow you to actually run MS-DOS application programs on your Macintosh. Just plug the DOS

processor into your Macintosh II—Mac86 into an SE—and load your favorite MS-DOS application software onto the Mac's hard disk. I was sold.

MS-DOS on my Mac looked and felt just like all my other Mac applications—great. I just pointed and clicked. The MS-DOS prompt I know and love appeared in a window on my screen. From there on, I used MS-DOS programs and commands as if I were working on a PC.

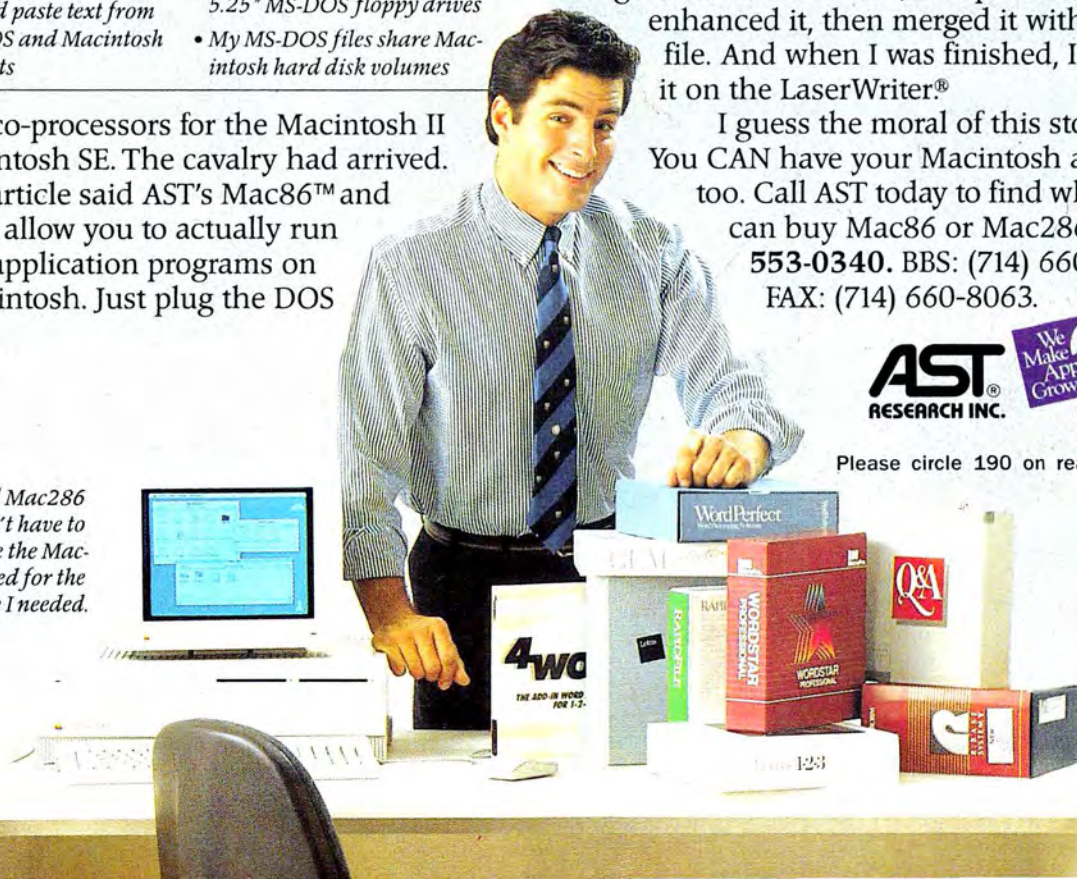
I even moved Macintosh files into MS-DOS, sometimes cutting and pasting parts from one environment to the other. And when I was finished with my PC and Macintosh files, I stored them both on the same Macintosh hard disk without any clumsy file transfer procedures to slow me down.

Back in the Macintosh environment, I still had immediate access to all of my PC files. Using Macintosh software, I reopened a PC file, enhanced it, then merged it with a Mac file. And when I was finished, I printed it on the LaserWriter®.

I guess the moral of this story is: You CAN have your Macintosh and PC too. Call AST today to find where you can buy Mac86 or Mac286. (714) 553-0340. BBS: (714) 660-9175. FAX: (714) 660-8063.



Mac86 and Mac286 meant I didn't have to compromise the Macintosh I wanted for the IBM software I needed.



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Fourth Time's a Charm

able specification sheets for formatting blocks of text.

Like *Xpress, Ready, Set, Go!* lets you run text around frames or irregularly shaped objects, including pictures, graphics, text blocks and even groups of objects.

While text wraps around pictures automatically, to wrap text around text or graphics, you must activate the specifications command in the Edit menu. Simply select whether the text wraps around a frame or graphic and watch *Ready, Set, Go!* do its stuff.

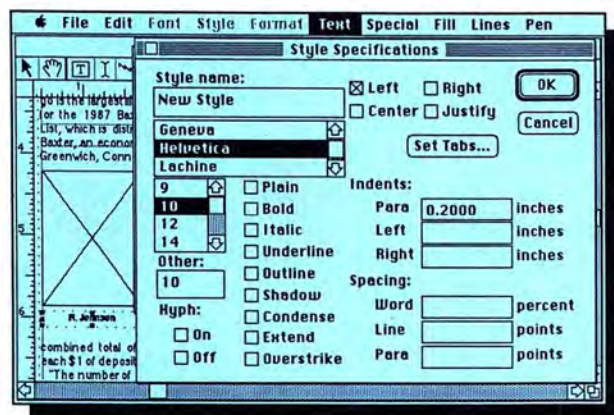
Although the wraparound feature is a big improvement over the manual method in *PageMaker 2.0*, it has a drawback. The problem is that once a picture is laid out, the text

run-around feature makes it difficult to place cutlines (captions) beneath the graphic while still retaining the correct text-to-graphic distances for the main copy. My solution is to first draw the picture block and then the text block for the cutline. Before entering the text, call up the picture's specifications and set the cutline's width and gap distances to the same specifications as the picture block.

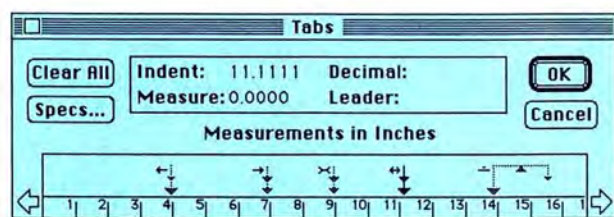
Text wrap is just one example of the power of *Ready, Set, Go!* 4. Equally impressive are the stylesheets that can be customized for a newsletter or book's headlines, subheads and body copy.

Let's say your booklet uses 24-point Helvetica Condensed for headlines, 12-point Helvetica Bold

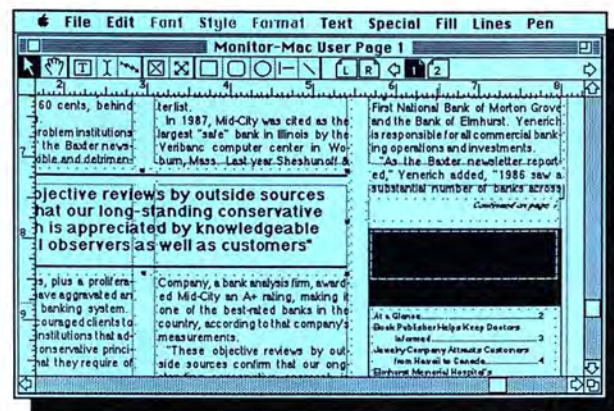
As a word processor, *Ready, Set, Go!* offers features that rival top-of-the-line, standalone word processors such as *WriteNow* and *Word 3.0*.



Style Specifications allow you to format text, headlines and subheads. The "spec sheet" can be accessed through the Text Menu or via keyboard commands that are user-assignable.



Ready, Set, Go! 4's tab commands are very logically thought out and simple to use. In order: left alignment, right, centered, justified and decimal tabs.



With *Ready, Set, Go!* 4's text run-around feature, it's easy to wrap text around graphics or text. However, one bug in the program is that white type reversed out of black (see dotted line) does not show up on screen, although it prints perfectly.

for subheads and 10-point Helvetica Regular for body copy. By customizing three separate stylesheets for heads, subheads and body copy, you can quickly format documents without worrying about setting the correct type size, paragraph spacing, indents or line spacing. The stylesheets do it for you automatically — either by using the **STYLES** command from the Text menu, or by typing **COMMAND-H** and whatever key you designate as a macro for the style sheet.

IN THE FAST LANE

As a word processor, *Ready, Set, Go!* offers features that rival top-of-the-line, standalone word processors such as *WriteNow* and *Word 3.0*. (As an aside, I've found the program invaluable for writing video scripts. Simply divide your pages into independent left and right columns, link the pages, and start entering text. Why spend an additional \$500 for a script writing program when you don't need it?)

Ready, Set, Go! handles text in sizes anywhere from one point to 255 point. A word of caution, however; it's often easier to place heads as separate text blocks to avoid having to readjust head sizes and leading.

In addition to its speed, the word processor includes such powerful features as search and replace, glossaries, a spelling checker (with suggested spellings) and automatic hyphenation.

The hyphenation exception sheet eliminates many of the problems reported for version 3.0. Because the program uses an algorithm-based hy-

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MAC MAKES OFF WITH IBM FILES

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It sounded like a phony claim.

An insurance company was transferring files to IBM mainframes coast to coast and all points in between.

Without using IBM PCs.

And it wasn't just text, it was spreadsheets and documents too.

One name kept popping up – MacMainFrame.

Turns out MacMainFrame is a micro-to-mainframe link. And it had Mac uploading and downloading data to IBM mainframes before you could say 3270 connectivity.

Mac IIs and SEs were also in on the action.

They all did a pretty good imitation of a 3270 terminal to boot.

And for MacMainFrame, CICS, TSO and CMS environments seemed like the old neighborhood.

But was it just another 3270 connectivity solution? Hardly. Instincts said this one had Avatar written all over it.

Avatar Technologies Inc.
99 South Street,
Hopkinton, MA 01748.

Avatar. All you need to know about 3270 connectivity.

617 435 6872



Fourth Time's a Charm

phenation system, random hyphens can occur that may not follow accepted grammatical standards.

To eliminate these problems, users can customize hyphenation rules by calling up the hyphenation exception sheet. The exception sheet allows the user to set limits for the maximum number of consecutive lines that can end in hyphens, the size of hyphenated words and even words that cannot be hyphenated. In addition, it allows you to set the maximum number of letters before

(and after) the hyphen so that words like "called" will not be hyphenated as "call-ed."

PUTTING IT ON THE TAB

After suffering through *Ready, Set, Go!* 3's awkward system for setting tabs, I was happy to see that Letraset improved this area of the program. Up to ten tab stops can be set for any selected block of text, including right, left, centered, justified and decimal tabs. An added bonus is that a character (such as a period) can be

used as a leader for a tab stop (a nice touch for designing a table of contents).

To set tabs, call up TABS from the Text menu, or type COMMAND-T (tabs also can be set when you design a stylesheet). Once the tab ruler appears, individual tabs are set by clicking along the ruler, which is aligned to the left margin of the text block.

FINE-TUNING LAYOUTS

To fine-tune layouts, *Ready, Set, Go!* offers several important features, including kerning, word spacing and line spacing.

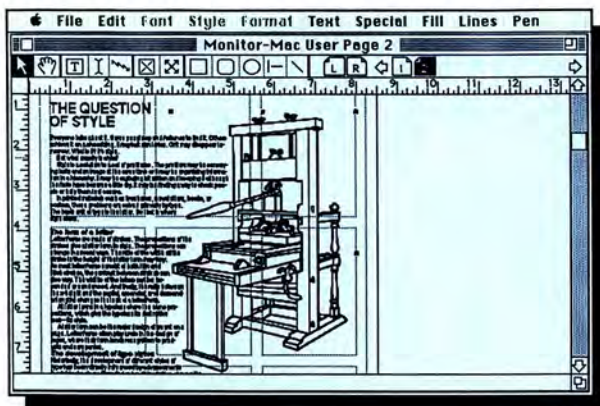
While purists may criticize *Ready, Set, Go!* for not being able to kern in increments smaller than one point, the kerning feature is adequate for reducing the space between pairs of characters in large text. You can kern any characters a point at a time by holding down the Command key and pressing the left or right cursor keys. To kern automatically, hold down the Option key when you choose the KERN command. A dialog box prompts you for the number of points you want to remove between each pair of characters in text you select.

Word spacing solves a problem that I've experienced with many desktop publishing programs I've used, including *PageMaker*, *MacPublisher II* and *Ready, Set, Go! 3*. Have you ever noticed how words set in 12-point Helvetica Bold print farther apart on the LaserWriter than they appear on the screen?

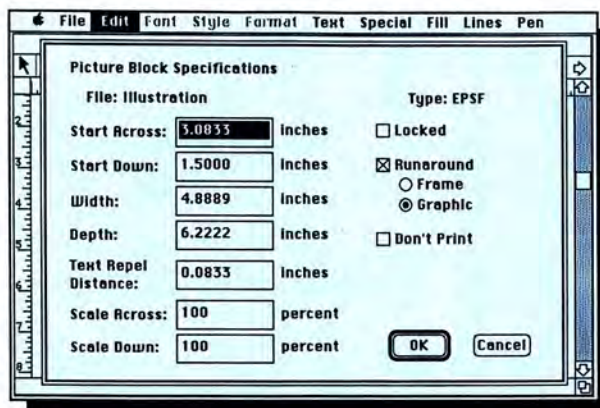
Unless you want to kern every word (which can be tricky), your best bet is to use the WORD SPACING command. The default value of WORD SPACING is 100 percent, so any value below that percentage brings words closer together. You also can change word spacing by using the TYPE SPECS command.

GETTING THE PICTURE

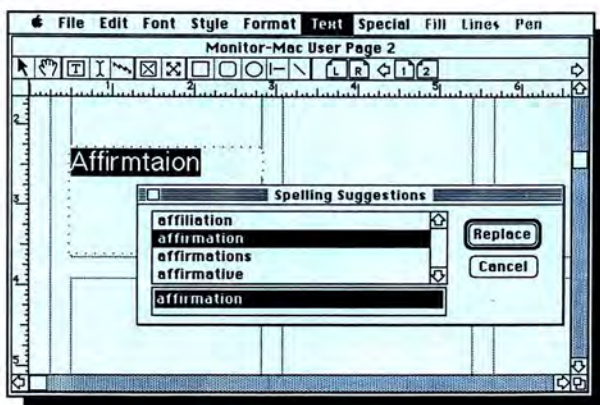
You can use the GET PICTURE command to place pictures directly from bit-mapped graphics applications like *MacPaint* and *FullPaint*, object-oriented graphics applications that use the PICT format like *MacDraw* and *SuperPaint*, high-resolution graphics applications that use EPSF



Text effortlessly wraps around either the frame of the graphic or the graphic itself. The user defines the distance between them.

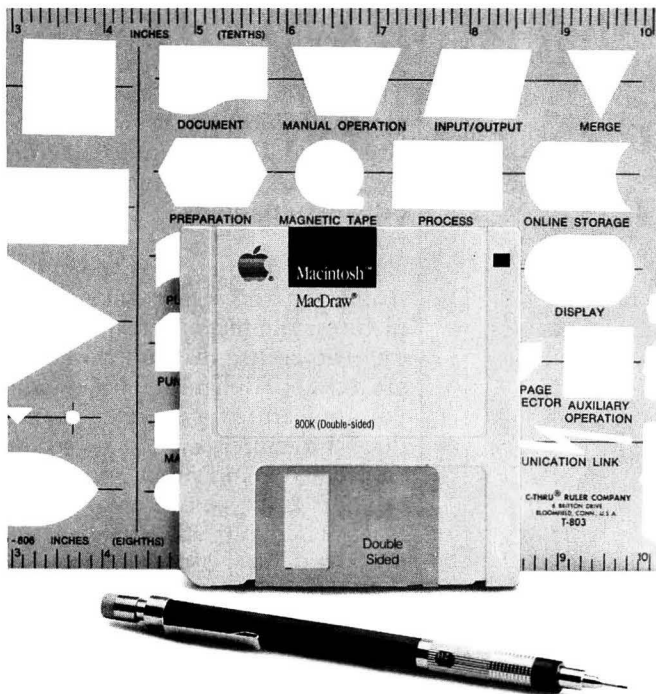


With the Picture Block Specification Sheet, the user can accurately scale pictures, set the text repel distance for run-arounds and select whether the text wraps around the graphic or frame.

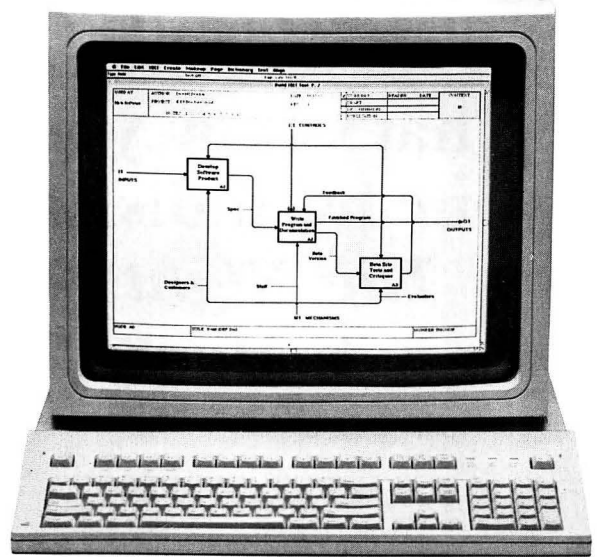


The spelling checker was dramatically improved by adding a "spelling suggestions" option. However, to use this option, the user first needs to select the spell checker and then select suggestions once a misspelling has been noted.

If you just need a drawing tool, use one of these.



If you need a design tool, use Design/PLUS.



A lot of tools can help you draw. But how many can help you design and keep track of complex system models?

Meta Software introduces Design/PLUS, the integrated text and graphics processor that helps you design systems, flow charts, organizational charts, computer programs, communications networks, production line process diagrams, business plans and more. Do it all faster and more efficiently than with manual tools or any other program.

Design/PLUS puts an end to time-consuming drawing and redrawing. Because it understands that objects in a diagram are related. Once you connect one object to another in a Design/PLUS diagram, it stays connected. If you move or resize an object, Design/PLUS automatically recreates all associated objects, arrows, and subordinate objects.

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If that's not enough, Meta Software is offering MacDraw users a \$25 trade-in allowance towards the purchase of Design/PLUS until May 31, 1988. See the coupon below for details. Wouldn't you rather spend your time designing instead of drawing?

Trade in MacDraw for Design/PLUS and save \$25.

Simply send Meta Software your MacDraw disk and Design/PLUS registration card by May 31, 1988. We'll mail you a check for \$25. For more information, write or call toll-free 1-800-227-4106. Inside Massachusetts, call 617-576-6920. Or simply return this coupon to: Meta Software Corporation, 150 CambridgePark Drive, Cambridge, Massachusetts 02140.

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Meta Software

MacUser 2/88

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That's how you leave your hard disk without *The NightWatch*™ & *MacSafe*®

Sorry to startle you, but the naked truth is that if you're not using *The NightWatch* & *MacSafe* to protect your hard disk files, anyone with access to your Macintosh can browse freely through your files — even changing them without your permission, or knowledge. And it could be tonight!

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If you share your Mac during the day, then *MacSafe* can help you restrict access to individual documents & applications. With *MacSafe*, you create folder-like safes and place the files in them you want to protect. It works much like the Finder, so you



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(Encapsulated PostScript File Format) like *Illustrator* and scanner software that uses TIFF (Tag Image File Format) like *ThunderWare*'s *Thunderscan* and Letraset's *Image Studio*. Pictures can be cropped, enlarged, reduced and stretched either by using the picture block handles, or by setting limits in the specification menu.

An important improvement to *Ready, Set, Go!* is that you can stack pictures, graphics and text on top of each other for overlays without a great deal of difficulty. This is an important feature for anyone who produces brochures, catalog sheets, advertisements and other copy where call-outs and type overlays are used. Stacked items are activated by selecting **BRING TO FRONT** from the Edit menu.

For on-screen graphics, you can experiment with 52 patterns, including 10 gray scales. An equal number of border patterns also are available.

READY, SET...

Features are one thing. Ease of use is another. To test *Ready, Set, Go! 4*, I recreated a newsletter that was originally done with *PageMaker 2.0a*. The newsletter included several text runarounds, including a half-column photo, a two-column graph and a pull quote.

By using the wrap-around feature, and entering copy directly into the layout, I finished the page in about one-third of the time it took in *PageMaker*. *Ready, Set, Go!* makes it much easier to experiment with the layout, and I also found that revisions are far easier to make.

However, with all of its positive benefits, *Ready, Set, Go! 4* is not without its drawbacks. For example, when you mix type sizes in a single text block, you can spend more time adjusting the line spacing for a headline than you would by simply starting with a new text block. In addition, in the 100 percent and 200 percent view modes, the program scrolls at a painfully slow pace.

Another minor annoyance is when you reverse type out of dark images. With version 4.0, you will not see how this effect looks until you actually print the page (The software sim-

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Make your Macintosh SE soar up to four times faster with Dove's new MacSnap™ 020 SE accelerator power board. The MacSnap 020 SE accelerator is the only design available that fully utilizes the SE's internal memory, allows for expansion to 5 megs of memory and offers a 68881 co-processor option. The MacSnap 020 SE uses state of the art LCA (logic cell array) technology. This program-mable LCA technology offers you a growth path for the future because the MacSnap 020 SE hardware can be reconfigured to accommodate advanced design features. All by inserting a Dove software disk into your Macintosh!



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The Picture

Graphics. That's what you bought the Macintosh for. And that's why there's PictureBase—the graphics “database” for desktop publishers.

With its advanced retrieval system, PictureBase puts graphics at your fingertips anytime, even within other applications. Used with PageMaker® 2.0 or XPress®, you can even place a graphic from PictureBase into a document without copy and paste.

And through the purchase of a low cost multi-use license, users can share graphics through AppleShare™, MacServe™ or other AppleTalk™ file servers.

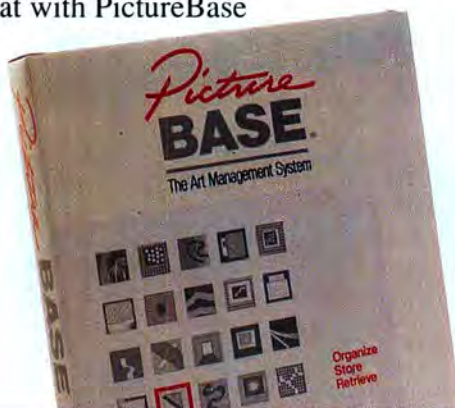
All of which simply means, that with PictureBase you can be more productive.

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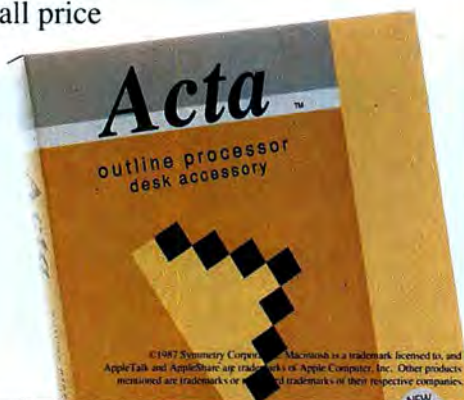
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ply won't allow it — although version 3.0 did).

Finally, in all screen views (Size To Fit, 50 percent, 75 percent, 100 percent and 200 percent), I found the sizing handles of the text and graphics blocks were difficult to grab with the mouse. Letraset should consider redesigning this feature for the next version of the program.

In a side-by-side comparison with PageMaker 2.0a, Ready, Set, Go! 4 easily won the laser output race with minutes to spare.

OUTPUT TIME

One area in which *Ready, Set, Go!* 3 was criticized was its output time for printing documents on the Laser-Writer. While I never found the program to be particularly slow, the new version is even faster. In fact, in a side-by-side comparison with *PageMaker 2.0a, Ready, Set, Go!* 4 easily won the laser output race with minutes to spare.

I printed a single page of a newsletter which used an EPSF image — a digitized, three-column masthead — plus a sophisticated graph made in *Cricket Graph* and saved as a PICT document. The type font was Helvetica Condensed, using 24-point Bold heads and 10-point body copy with 11-point leading.

It took *Ready, Set, Go!* 3 minutes and 10 seconds to format and print the page on a QMS PS800 laser printer. *PageMaker* (using Aldus Prep as the driver), took 5 minutes and 38 seconds to format and print the page.

Next, both files were taken to a local typesetter and output on a Linotron 300. Here the programs performed about the same. However, I did learn that when you use EPSF images with a *Ready, Set, Go!* document, you must include copies of the actual file in your *Ready, Set, Go!*

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Suggested Retail Price: \$149.95

System Requirements:
Macintosh 512K, Plus, XL (1 mb)

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Silicon Beach Software, Inc.
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Fourth Time's a Charm

document folder. Failing to do so can produce some strange output results from the Linotron, such as sentences that don't wrap correctly and EPSF images that have "the jaggies." Using Aldus Prep as the driver for PageMaker, it wasn't necessary to include the EPSF file.

THE CHARM

Ready, Set, Go! 4 is a very exciting product. Aside from a few glitches, the program is relatively free of bugs. Its ability to easily integrate text with graphics, coupled with Letraset's outstanding technical support and the well-written, clearly thought-out manual, make *Ready, Set, Go! 4* perhaps the best Macintosh page layout program.

At \$495 list, *Ready, Set, Go! 4* is the same price as PageMaker 2.0a. From a feature and a performance standpoint, the Letraset program is a far better value for the money. It will be interesting to see how Aldus responds to this major challenge from Letraset. The winners in this "desktop publishing war" ultimately will be us, the Macintosh users.

MIKE NIKOLICH IS ACCOUNT SUPERVISOR AND DIRECTOR OF DESKTOP PUBLISHING FOR SELZ, SEABOLT & ASSOCIATES, CHICAGO'S OLDEST PUBLIC RELATIONS FIRM.

MACUSER RATING

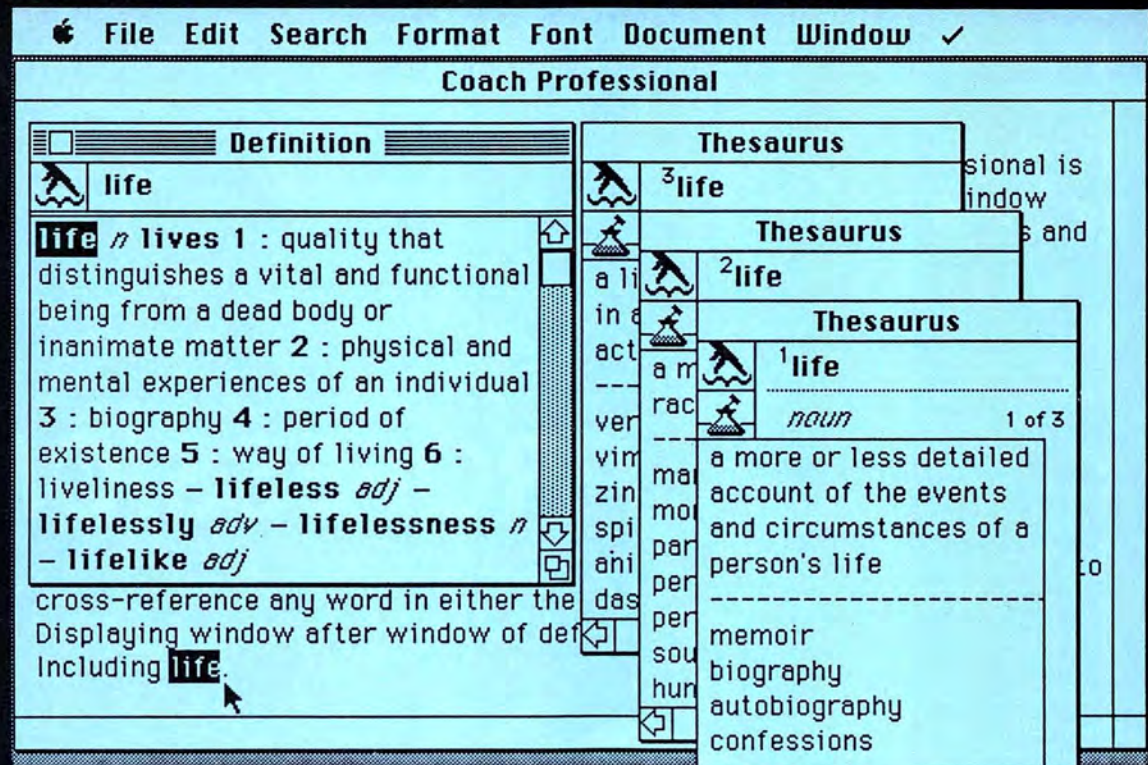
Ready, Set, Go! 4.0



Follows Mac Interface	■ ■ ■ ■ ■
Printed Documentation	■ ■ ■ ■ □
On-Screen Help	None
Performance	■ ■ ■ ■ □
Support	■ ■ ■ ■ □
Consumer Value	■ ■ ■ ■ □

Comments: A greatly improved product that delivers what it promised. Elegant interface with very few bugs. Very well-written manual. **Best Features:** Powerful text wraparounds, fast word processor with hyphenation and spelling check and custom stylesheets. **Worst Features:** A bit sluggish in the 100 percent and 200 percent view modes, sizing handles are hard to grab and captions are tedious to insert beneath photos when wrap-arounds are used. **List Price:** \$495. Published by Letraset, 40 Eisenhower Drive, Paramus, NJ 07652. (201) 845- 6100. Version 4.0 reviewed. Not copy protected.

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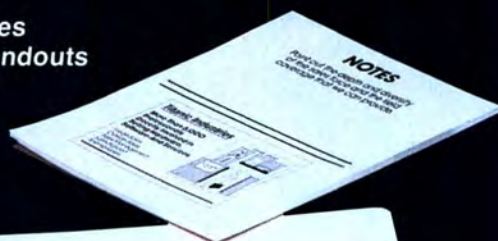
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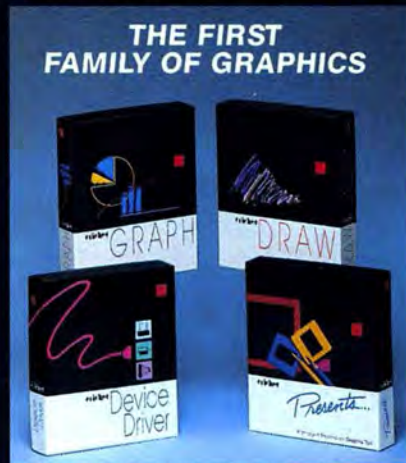
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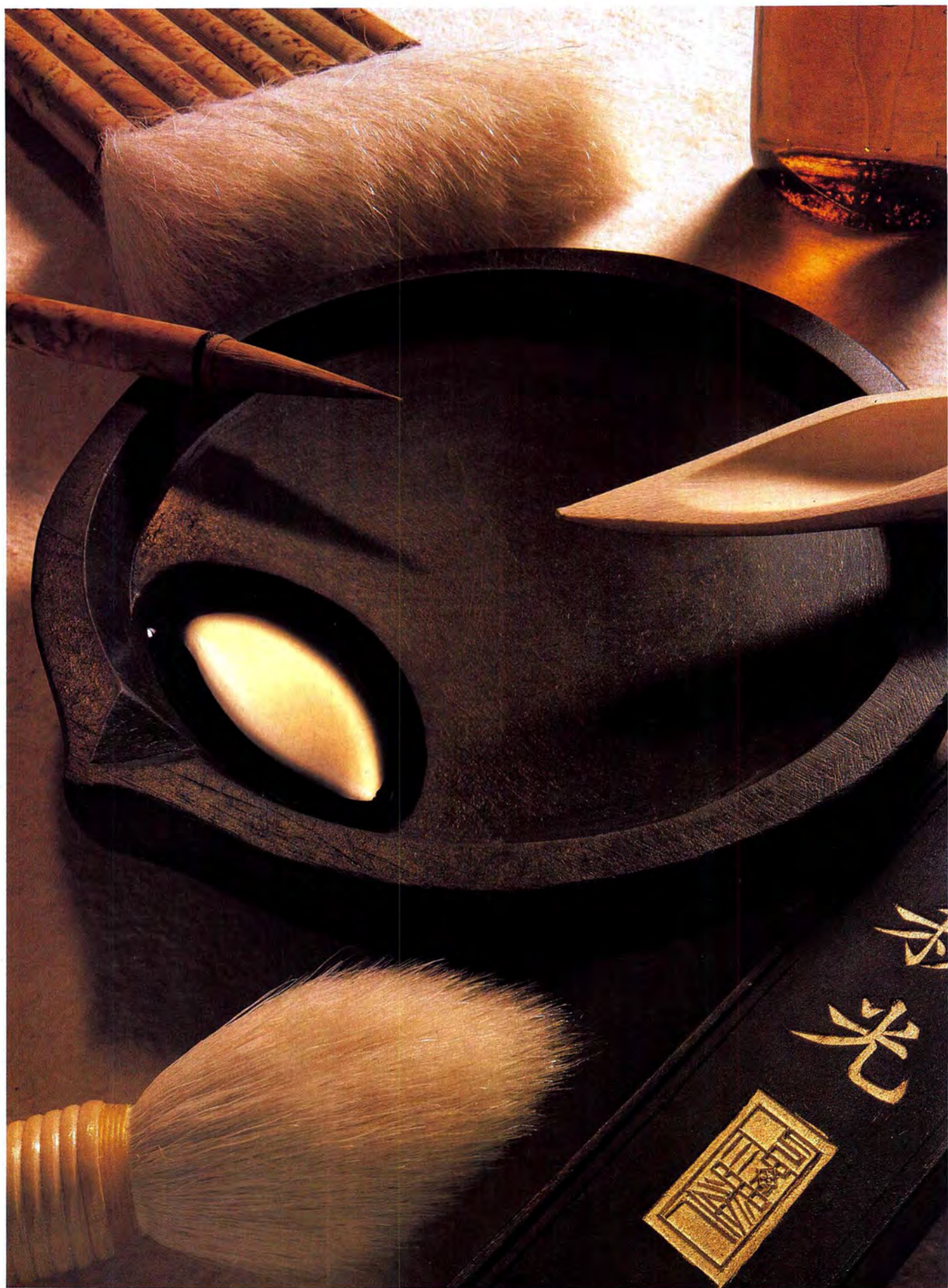
When it comes to Macintosh graphics software, there's just one name to remember — Cricket Software. Your local dealer will be happy to introduce you to the entire family: Cricket Graph, Cricket Draw, Cricket Presents..., and Cricket Device Drivers.



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Brush With Greatness

MacCalligraphy is far more than it appears. It's not simply Oriental and attractive; it's the best paintbrush metaphor you can get.

LIFE INVOLVES ALL YOUR SENSES. And using tools is as much a matter of feel as of vision. When you use a knife to cut or carve, you rely as much on tactile feedback to guide as you do on what you can see. Tactile feedback is very important. And very hard to transmit through a computer. Sure, the keys on a keyboard can let your fingers know when they've been pressed. But the mouse, ah, the mouse! Can a mouse supply tactile feedback? It can if you're using *MacCalligraphy* to draw or paint.

Most Macintosh graphics programs lack the tactile response of what painting with a brush truly feels

like. In their clinical, arithmetic way, you select a brush tool, then its shape and pattern, and click-drag your way across the screen as the stroke busily turns pixels on or off along the way. The coverage is always even and uniform, no matter how lightly you intend to touch the "paper" nor how quickly you move the brush. Even the airbrush tools, which most closely approximate the feel of painting, don't quite do it.

Painting on a Macintosh has been described as using a bar of soap to paint by the numbers, an expensive Etch-A-Sketch, or a Ouija board coloring set. Yet *MacPaint*, the venera-

BY PAUL SCHIEMER

Brush With Greatness

ble champion of personal computer graphics, remains a hero to all who first experienced "art" on a CRT.

With the recent proliferation of full-featured graphics programs available, most of us still keep a faithful copy of *MacPaint* close at hand, like the old friend it is.

However, the spontaneity of expressive brush strokes with varied weight and intensity has been missing from the beginning. The splash and dash of vibrant, expansive marks carrying with them a mood and spirit all to themselves has gone wanting, until now. From the distant shores of Japan comes a delightful extension of the graphic interface with software called *MacCalligraphy*. The exhilaration we all shared at first sight of *MacPaint* will soon thrill you again when you see this program in action.

MacCalligraphy best simulates the touch of a brush wet with ink to absorbent paper. You click and hold the mouse button to allow the flow of ink to run to the paper. The longer you hold it in one position the wider the stroke and coverage. You actually experience the "feel" of painting,

Painting on a Macintosh has been described as using a bar of soap to paint by the numbers, an expensive Etch-A-Sketch or a Ouija board coloring set.

and can watch the ink spread onto the paper without, yet within, your control.

Supplied without copy protection (it is easy to make a backup or to put on your hard disk) *MacCalligraphy* must be run off a system disk all its own. That's not because there is a problem with the software, but because it is more than *just* a program. It is a concept, an enlivened, uplifting experience. The essence of East-

ern philosophy, from Zen to Tao Te Ching, and the sublime simplicity of artistic expression are contained in *MacCalligraphy*.

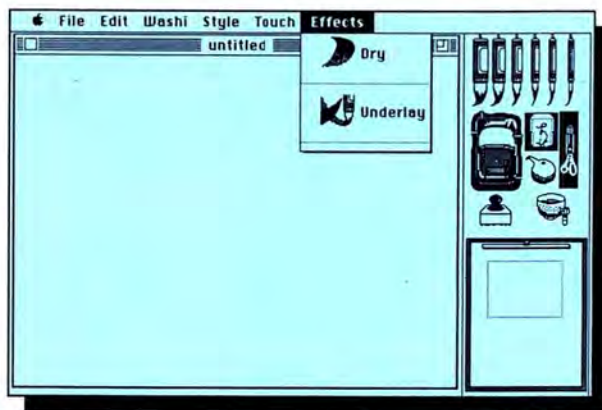
The packaging is quite unique, and well worth a mention (I guarantee you won't throw this packaging away)! All the material is housed in a wooden box silkscreened with an ironic image of Bodhidharma (a Buddhist deity) holding a Macintosh mouse. Inside you will discover the program disk, an art files disk (with some of the Japanese clip art also published by Enzan-Hoshigumi), some sheets of *washi* (rice paper) and the documentation.

Douglas Braat, an American now living in Japan, wrote the instructions and translated into English what had been written in Japanese. They are of exceptional literary quality, while covering all the facets of the program. You are taken from the middle 19th century to the present, with illustrations and poems added to highlight this extraordinary work. At no point did I struggle to grasp a concept or method of implementation, as I have done with other manuals. The entire manual was compiled with a desktop publishing program on a Macintosh and output to a LaserWriter prior to lithographic printing.

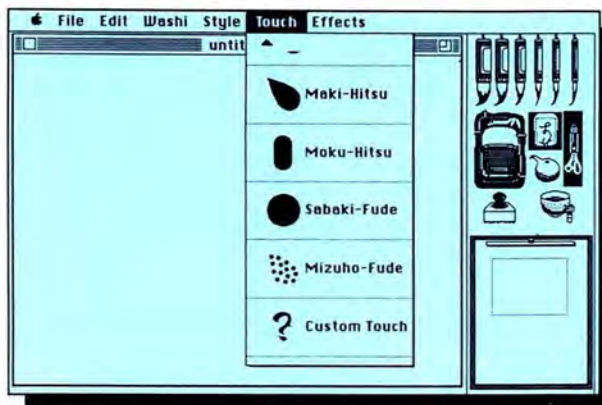
The documentation also includes an elaborate series of lessons in practicing calligraphic art, starting with basic strokes and following through to complex drawings of bamboo and complete font sets for hand laying type. The instructions are easy to follow and will help you develop the skills you need to produce quality work (the pieces shown here are my first efforts).

On startup you are brought into a traditional Japanese tea room with a *tokonoma* treasure alcove complete with a table setting, a picture on the wall, boxes containing your tools and art and the program itself. All items are neatly arranged and placed in this serene environment, with pause to meditate for a moment as you contemplate the endeavor to be undertaken.

The factory setting of the *MacCalligraphy* disk has its "folders" and program placed in specific spots



These special effects may be used individually or in conjunction with one another. For some real versatility you can use the Opaque, White and Black options in the Edit menu to broadly affect the appearance of the ink left on the paper.



By selecting different touches, you can alter the type of brush you use and the shape of the stroke it lays down.



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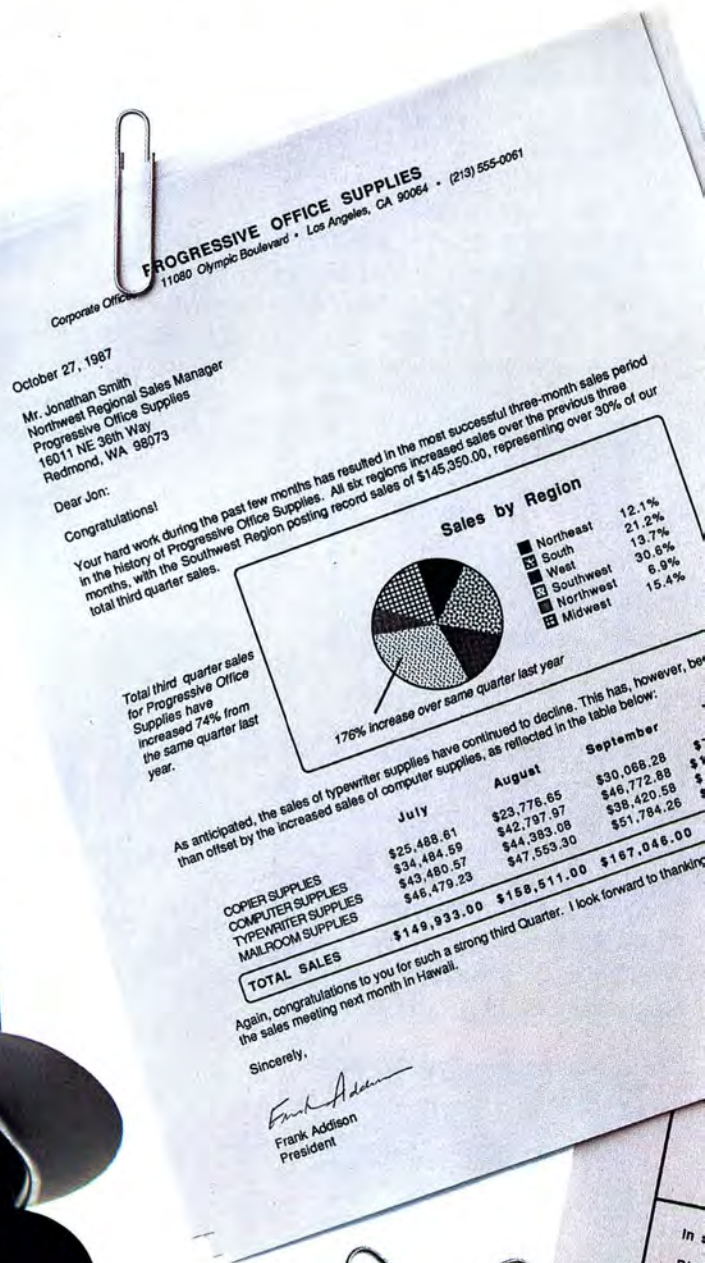
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October 27, 1987
Mr. Jonathan Smith
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Dear Jon:
Congratulations!

Your hard work during the past few months has resulted in the most successful three-month sales period in the history of Progressive Office Supplies. All six regions increased sales over the previous three months, with the Southwest Region posting record sales of \$145,350.00, representing over 30% of our total third quarter sales.

Sales by Region



176% increase over same quarter last year

Total third quarter sales for Progressive Office Supplies have increased 74% from the same quarter last year.

As anticipated, the sales of typewriter supplies have continued to decline. This has, however, been offset by the increased sales of computer supplies, as reflected in the table below:

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COMPUTER SUPPLIES	\$34,484.59	\$42,797.97	\$46,772.88
TYPEWRITER SUPPLIES	\$43,480.57	\$44,353.08	\$38,420.58
MAILROOM SUPPLIES	\$46,479.23	\$47,553.30	\$51,784.26
TOTAL SALES	\$149,933.00	\$158,511.00	\$167,046.00

Again, congratulations to you for such a strong third Quarter. I look forward to thanking the sales meeting next month in Hawaii.

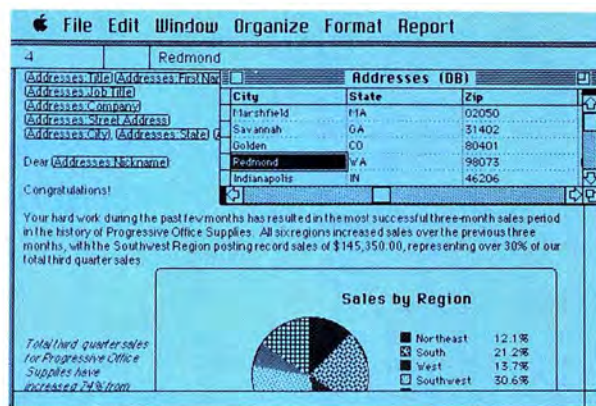
Sincerely,

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from one to another. And later combine work done in each part of the program on a single printed page.

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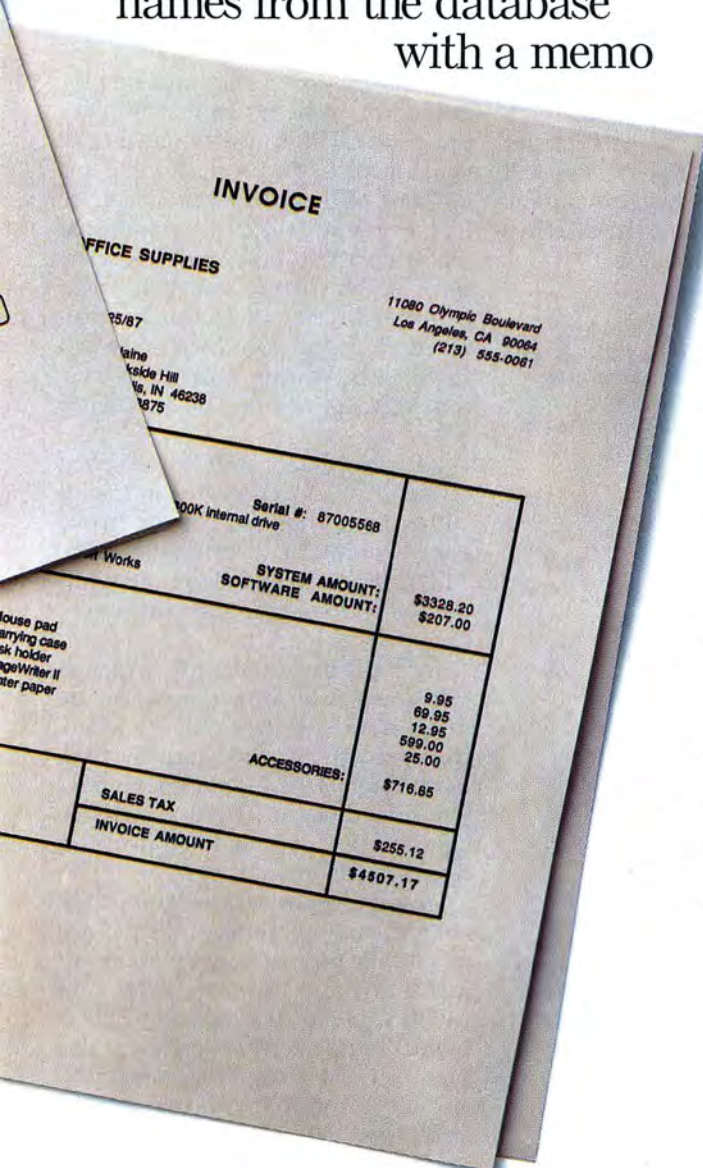
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Brush With Greatness

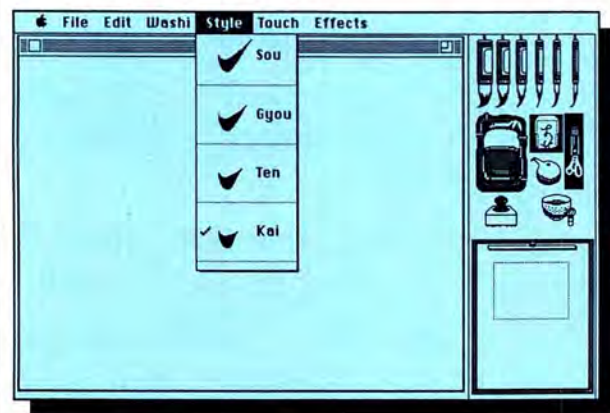
on the desktop. If you have a window open that covers their location, as might be the case on a hard drive, you may panic thinking your original items have somehow gotten lost or erased. Do not despair, look around a bit, they are there.

When you open the program you find three windows, the largest being your work area to the left. A tools area is in the upper right hand corner with a clipboard, or overview window directly below that. The work area is roughly the size of an active *MacPaint* window.

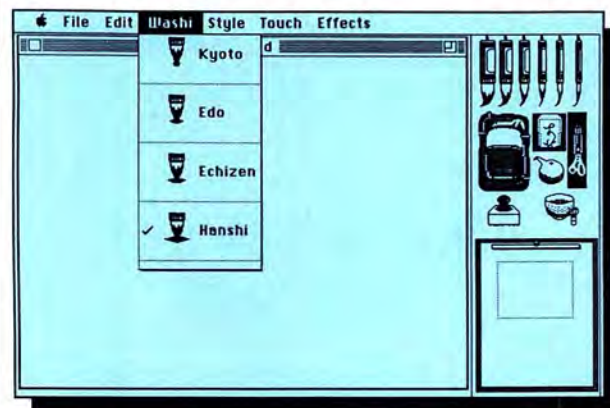
The tools include six brushes in different sizes, the ink stone and ink block, water dropper, scissors, seal and tea break. The tea break is invoked at your option and will transport you to a view of an Oriental garden outside the tea room. If your Mac's clock is set correctly, the scene will depict the time of day — morning, noon, dusk or night, as well as foliage appropriate to the season. There is even an animated stream running through the middle of the garden.

MacCalligraphy's tools include six brushes in different sizes, the ink stone and ink block, water dropper, scissors, seal and tea break.

The method of grinding hardened pigment (ink) upon the ink stone is as old as writing itself. Select the ink block and rub it on the ink stone to obtain an ever increasing density of ink. There are nine shades of gray, besides black and white. You can also use key equivalents to select your ink color. ("~" to "0", with the latter being the darkest.) The "~" key will produce white ink which can also be used as an eraser because it will cover any shade of gray or black.



The style selections indicate the style of tail left when lifting your brush from the paper. The Kai style is the default setting.



The Washi selections each represent a different type of rice paper, with different absorbency. The absorbency affects how much ink is left as you brush. Kyoto is the least absorbent, Hanshi is the most absorbent. Hanshi is the default selection.

By using the water dropper you can cut the ratio of pigment to liquid at equal intervals of 10 percent for each drop, just as with the clicks of the ink block on the stone or the key equivalents. You will find all methods of changing the density of ink equally useful, as you are in the tools area changing brush sizes frequently. The only other time you need to touch the keyboard is to undo the last stroke, with a COMMAND-Z (aside from the basic Cut, Copy and Paste features in the Edit menu).

The brush sizes go from broad for wide, expressive, bold strokes to medium, fine and delicate for the controlled moves required with hand lettering. Brush shapes can be selected from a menu item called TOUCH, with five standard types and a Custom Touch available.

Touch refers to the imprint produced when the brush first touches the paper. The touch is more than just a shape to the brush though, it is the type of brush as well. There are hair brushes, as well as traditional wood fiber brushes. With the Custom Touch feature you can select from a collection of 16 touches provided, or design your own while in a FatBits-like editing area. Your custom touches can be saved for later use.

Each brush can also be modified by the Style selection in the menu, which alters the "tail" of the stroke when you release the mouse button. The tails are pictorially rendered in the Selection menu, as are the touches.

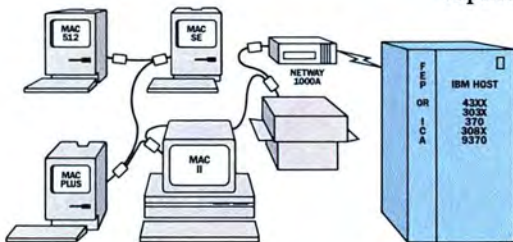
In the East handmade paper is called *washi*. Some *washi* papers are more absorbent than others and ink runs into them more quickly than harder papers. *MacCalligraphy* gives you four different types of *washi* to choose from, each with its own icon depicting the texture.

Along with the ever widening variables of combinations of the density of ink, the type of paper you are using, and the brush size, shape and touch you can now add the Effects menu. Two selectable options in this menu let you choose either DRY or UNDERLAY, or both, for the effect your stroke will have in relation to those strokes already in place, and those to

How your Mac family and your 3270 family can be one big happy family.

Your Macintoshes and your mainframe. They have some truly amazing capabilities. Except for one: the ability to easily talk to one another.

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Corporate workgroup using AppleTalk.

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Brush With Greatness



The smaller panda was created with only a dozen or so brush strokes, using two brush sizes and three levels of ink. The larger panda required about eight strokes and just one brush size. It was cleaned up a bit with White after the fact.



This is an example of the art included on the separate Art Files disk.

follow. They work primarily with the grays, though each is affected by white or black as well.

The Dry brush allows you to effect the stroke of a nearly dry brush across the already laid down strokes of gray. With this effect you can simulate absorbing the darker ink, thereby giving more variation and texture to the art. The Underlay feature will put gray beneath the strokes already laid down, and effect a multiple of density versus the depth of the artwork. This is amazing to watch as you layer the strokes and develop shadows behind objects and pull even greater detail from the artwork. This feature alone is well worth the investment in *MacCalligraphy*.

Underlay is
amazing to
watch as you layer
strokes, develop
shadows and pull
greater detail from the
artwork. This feature
alone is worth the
investment in
MacCalligraphy.

The Seal is a traditional method of signing a work of art, and is used not only by the artist but also by collectors, admirers and agents of the artist. The seals are sometimes as interesting as the artwork, and often contain complex graphic images. Using the seal tool is quite like using a rubber stamp. Select it from the tool window and click on the work area where you want to stamp the paper. There are 24 seals supplied with the program. These can be edited, or you can design your own seals and save them for later use by working in a FatBits-type grid.

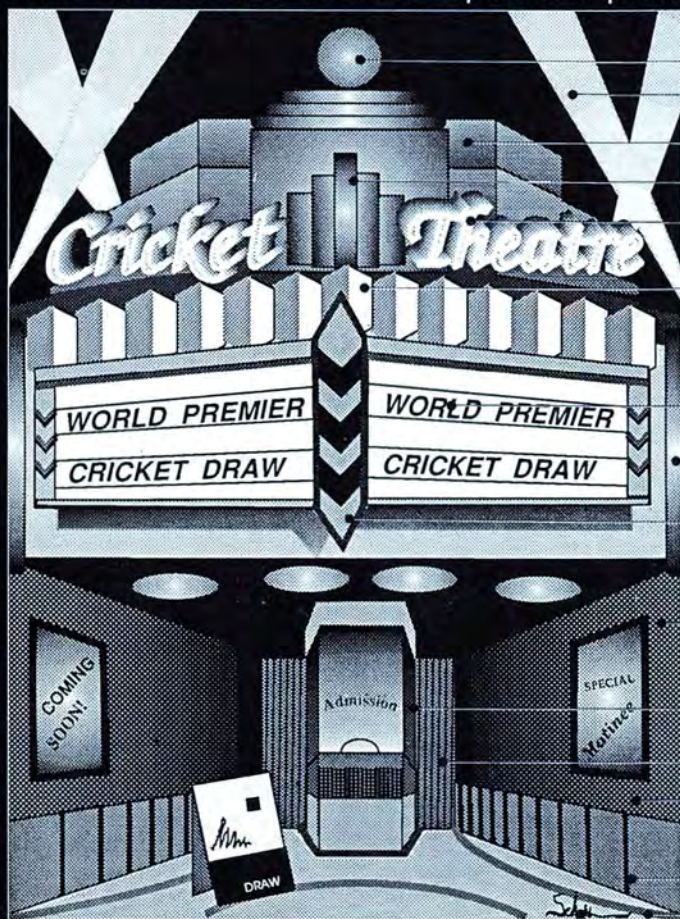
In the full-page view in the lower right hand corner of the screen you can click and drag the active window

cricket

DRAW

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Brush With Greatness



These are examples of the Seals used in signing artwork. The first two, the tree at night and Paul '87, were created within the program. The rest are a selection of those available on the Program disk.

around the standard 8-inch-X-10-inch page area for placement. This is quite like the Grab feature in *MacPaint*.

The selection tool, an arrow cursor, takes some getting used to. You must be sure of your cursor placement and click with authority, no matter what the mouse setting is in the *Control Panel*. There are times you may think you selected a particular tool only to find out you haven't.

The edit features are also specially implemented here in *MacCalligraphy*. The scissors are actually a selection marquee. Choose the scissors, move the cursor into the work area and it takes a cross-hair shape. Click and drag to capture an area. There's an All Clear feature which erases the work area when selected. The standard Cut, Copy and Paste features apply, along with three new ones.

It would be nice to have a selection lasso feature for a more accurate choice of capture. As you build images in a painting, or letters in typeset, the standard marquee box selection can get a little big for its britches, often encroaching on equally important areas already finished.

You can invert any selected area, or keep it opaque, which will completely cover an area it is dragged over. By choosing WHITE or BLACK from the Edit menu you can give the selected area a degree of transparency. The White option will make black pixels turn white when positioned over black pixels. With Black chosen black pixels remain black when moved over one another. Try capturing a series of different gray areas and drag them about with either option

**You can import
MacPaint files
into MacCalligraphy to
touch up work, use the
variety of brushes and
effects, or just add your
seal as a signature.**

selected: the effect is very impressive.

MacCalligraphy documents can be read as *MacPaint* files. You can also import *MacPaint* files into *MacCalligraphy* to touch up work, use the variety of brushes and effects, or just add your seal as a signature. Using a desk accessory like *Art Grabber* + you can select sections of *MacCalligraphy* documents to add interest and highlight your other graphic or desktop publishing output.

The calligraphic effect of hand-wrought typeset is at the heart of this wonderful program. The Japanese word for writing, *kaku*, is the same as for their word for painting. Calligraphy in the West has recently come to mean typography done with a quill or chiseled pen, with a rhythmic and fluid display of flourishes and ornate filigrees.

MacCalligraphy comes with six font sets stored as documents on your disks, three are Roman style and the other three are Japanese. Using these sets and the instructions contained in the documentation should bring even the most casual artist the ability to render professional look-

ing calligraphic typesetting. Not only is it fun to experiment with, the results are very pleasing to the eye.

MacCalligraphy takes some getting used to. There is a degree of frustration that comes with taking on such unusual concepts as touch, flow, stroke, *washi* and style. The reward is great, though, and you are bound to experience a new awareness of the interaction between yourself and your Macintosh. The synapse of action and reaction was too mechanical before *MacCalligraphy*. Now with this wonderful program you're bound to feel that creative spark again.

After some practice, an average user can begin to create clever and attractive artwork for things like point-of-purchase displays, menus, dinner party seating cards and highlights for a company newsletter. It's a combination writing and painting tool in its own environment.

With *MacCalligraphy* added to your graphic software arsenal you can now render almost every effect possible with common art instruments. The spirit of the Macintosh artist can now be seen in the expressive strokes of a brush, the gentle arc of a touch and with subtle style. ☐

PAUL SCHIEMER WORKS IN THE BROADCAST BUSINESS AND USES A MACINTOSH DAILY.

MAC USER RATING

MacCalligraphy	★★★★½
Follows Mac Interface	■ ■ ■ ■ □
Printed Documentation	■ ■ ■ ■ □
On-Screen Help	None
Performance	■ ■ ■ ■ □
Support	■ ■ □ □ □
Consumer Value	■ ■ ■ ■ ■

Comments: The best simulation of brush painting in any graphics program. A solid program with a simple, straightforward approach to its use and advanced features. **Best Features:** User-designed Seals and Touches enable you to design your own signature tool and the style of brush you use. **Worst Feature:** The small drawing window. **List Price:** \$175. Can run on a 128K. Comes with two disks: one a system/program disk, the other an art disk. Published by Enzan-Hoshigumi of Tokyo, Japan. Distributed by Qualitas Trading Company, 6907 Norfolk Rd., Berkeley, CA 94705. (415) 848-8080. Not copy protected.

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<i>Access time</i>	37ms
<i>Warranty</i>	One year
<i>Price</i>	\$1,195

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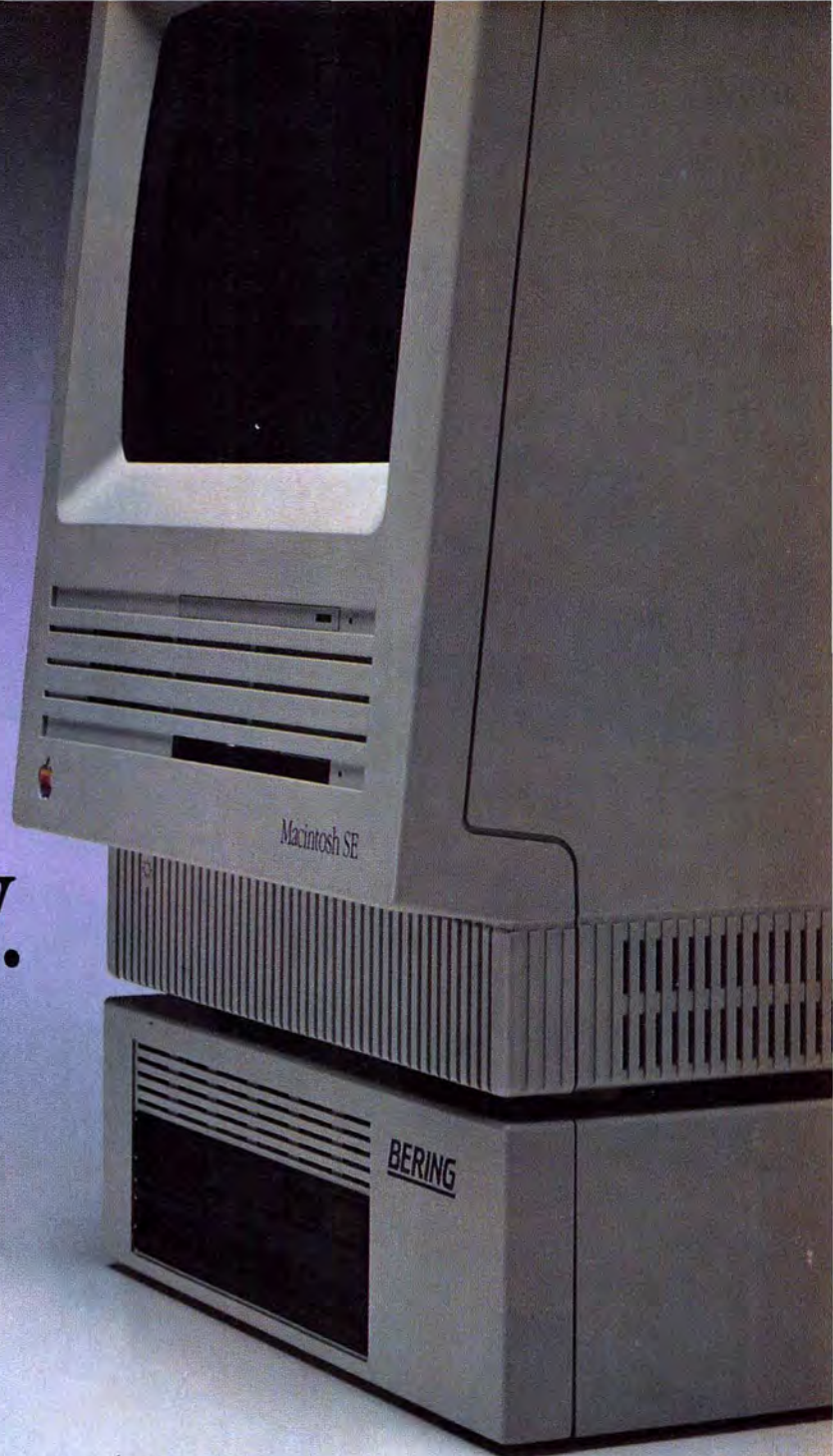


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tornado blows out DEC™
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1972. Moonlighting
programmer deprograms company's
production records. Files
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1973. Fastidious
janitor turns off IBM® 370.
Files saved on 3M data
cartridge tape.



1978. Colorado electric
storm jolts Wangs®.
Files saved on 3M data
cartridge tape.



1979. Little Stevie Fong
flips floppies out
father's office window. Files saved
on 3M data cartridge tape.



1980. Temporary help
permanently dumps accounting
records on Apple III. Files
saved on 3M data cartridge tape.



1984. Hard disk fails
in soft market; brokers panic.
Files saved on 3M data
cartridge tape.



1985. Sal's Diner.
Dropped eggs scramble Macs.™
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1987. Delivery boy delivers
IBM PS/2™ swiftly and
abruptly to the sidewalk. Files saved
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Things change, stay the same.



1975. Head of the office trips, pulls plug on HP® 3000. Files saved on 3M data cartridge tape.



1976. Unnamed computer does the unmentionable. Files saved on 3M data cartridge tape.



1977. Office fire bakes Apple® IIs. Files saved on 3M data cartridge tape.



1981. Circuit breaker flips, floppies flop. Files saved on 3M data cartridge tape.



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Modem Poll

**Lower the cost of
telecommunicating by
sharing your modem
with others on your
network. ComServe and
NetModem do it in
different ways.**

APPLE COMPUTER INTRODUCED THE AppleTalk network in 1985. Network sharing of expensive peripherals was, and still is, part of Apple's marketing scheme. But in 1985 only the LaserWriter could be shared. That stayed true for a long time. Apple and third-party developers have been working to develop the software and hardware to allow network users access to other peripherals. Finally, early last year, the results really started to bear fruit. These peripherals include hard disks (as file servers), dot matrix printers and optical scanners. And two companies have introduced products that allow a modem and other serial devices to be shared

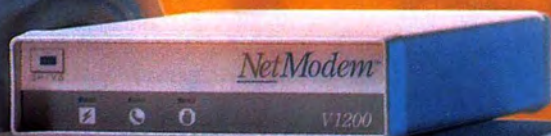
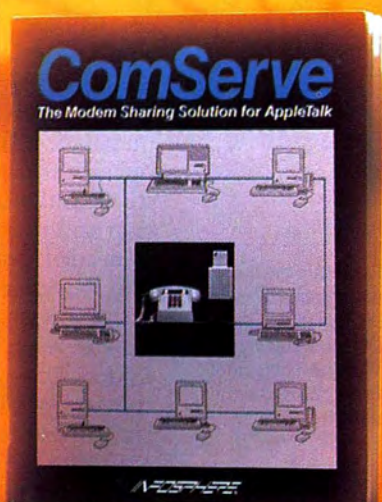
by users on the AppleTalk network. The two products are *ComServe* from Infosphere and the *NetModem* from Shiva Corporation.

ComServe allows AppleTalk network users transparent access to any modem (or serial device) that is remotely located and has been identified as a network modem. *ComServe* is a software-only solution. *ComServe* requires a Mac to act as a modem server. However, this Mac does not have to be dedicated as a modem server.

Shiva's *NetModem* is a 1200-baud modem that sits on the network as an independent node, much like the LaserWriter. Like *ComServe*, the *NetModem* offers AppleTalk users transparent access to modem services. Multiple *NetModems* can reside on the same network at the same time.

Both offer excellent support of network servers, and can operate as co-resident network services. *ComServe* and *NetModem* support *AppleShare*, *TOPS*, *MacServe* or *HyperNet 2000*. Internetwork connections, such as bridges to Ethernet networks or other remote AppleTalk networks are also supported. *NetModem* also offers a dial-in feature for remote access to network services. As a software-only solution, *ComServe* does not require any special hardware. In fact, neither prod-

BY MARK D. VELJKOV



Modem Poll



The *ComServe* Configure Server screen allows you to select the type of serial device you are using and to send the specific ASCII characters that release the serial device.



The standard device defaults screen allows you to fine tune. These settings are standard for most Hayes-compatible modems and serial printers.

uct requires any special adaptations to your hard disk or network server. *ComServe* can be used with any Hayes-compatible modem and most of the popular telecommunication applications. Among the more popular communication applications that are supported by these products are *MicroPhone*, *Red Ryder*, *MacTerminal*, *inTalk*, *MORE* and *HyperCard*.

These are just a few of the more popular programs. If you plan to use other programs, check with the publisher or manufacturer. Once connected, all network users without modems can enjoy the benefits of connecting to commercial or company data bases, the corporate mainframe or a PBX system.

Both *ComServe* and *NetModem* are easy to set up, use and adjust. It's also easy enough for even novice telecommunications to adjust a device's parameters on the modem share server to fit their specific needs. Both *ComServe* and the *NetModem* can be installed on either hard disk or a floppy-based system. In most applications, *ComServe* will likely be in-

stalled on the network server hard disk. Both products cooperate well with most of the popular network servers. All that's required is that your particular server supports concurrent applications.

THE SOFT TOUCH

ComServe captures input and output from the modem port on a workstation machine and redirects the signal over AppleTalk to the modem port of a server station. At your own machine, you then select the desired server by using the *Chooser* desk accessory, just as you select a LaserWriter. When you send a command that needs to use a device attached to the modem port, *ComServe* takes over and establishes a connection with the previously selected server. If the device you pick is being used by someone else on the network, you're notified. You then either wait your turn or select another server.

Even though the primary emphasis on *ComServe* is modem sharing, any serial device that can connect to the Mac's modem port can be shared. This includes modems, ter-

minal ports of minicomputers (like a VAX or IBM System 36), dot matrix printers (ImageWriters) and CAD/CAM plotters. The selected device simply needs to be identified to the modem server, and the appropriate communication parameters set. Users then use the appropriate application to communicate with the selected device.

Since *ComServe* is software-only, installation and setup are a one-time operation. Installation requires two steps. You must set up the server station and then as many workstations as needed. Server installation is simple. Working on the Mac that is to act as the server, drag *ComServe* and *ComServe* server files into the System folder. This program is designed for the current Mac generation (SEs and IIs). If you're using a Mac 512K or Mac Plus as your server, you must drag an additional file to the System Folder. This file is appropriately named "For Old ROMs." It improves the performance of *ComServe* on the older 128K ROMs. That's it for servers.

Setting up the individual workstations is easier. You need only drag the file *ComServe* to the startup disk's System folder. Once all the files have been copied, reboot the server machine and the workstation machine. When everything settles down, *ComServe* will be up and active.

In a network setting, the most important question is how well does *ComServe* work with concurrent servers like *TOPS*, *MacServe* and *AppleShare*? The answer is, "Very well, thank you!" A *ComServe* server can run on the same computer as a *MacServe* or an *AppleShare* server. *AppleShare* is sometimes stingy with the time given to other programs running on the same computer. When the *AppleShare* server is busy, *ComServe* users may notice some delays in server response time. *ComServe* also works well with the *TOPS* distributed file serving system.

IN USE

Once installed, *ComServe* is as easy to use as the LaserWriter. Simply open the *Chooser* desk accessory, and *ComServe* servers show up along

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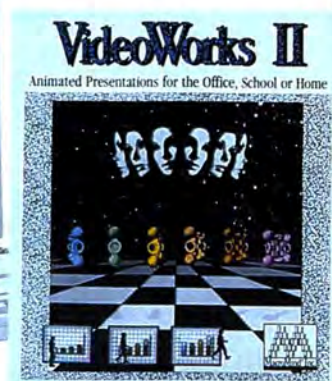
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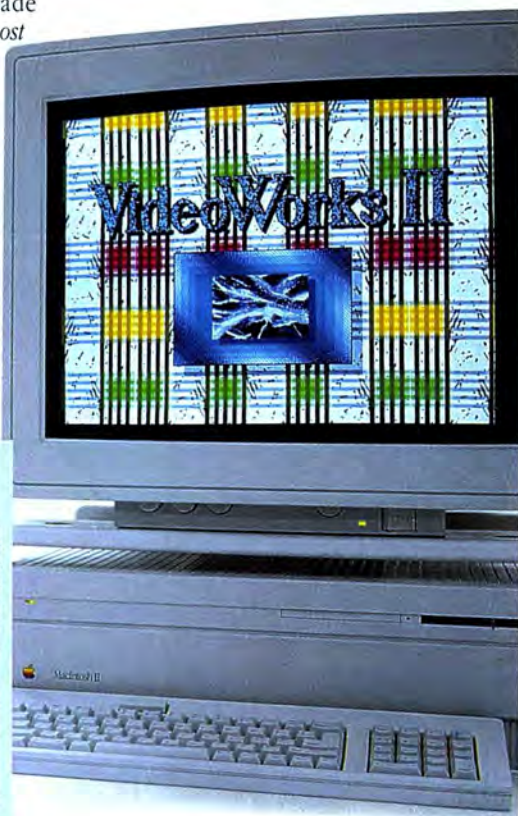
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To trade up send \$100, your original Movies disk and \$7.50 for shipping.

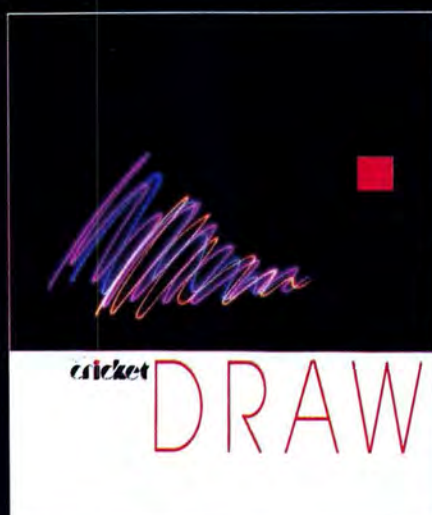
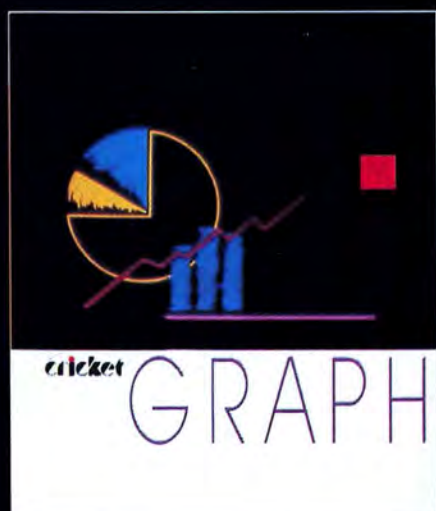
Comes with three 3.5" disks (800k each): the Program, Clip Animation, Artwork and Movies; and a Guided Tour training disk. Not Copy Protected. *Clip Animations*™, *Clip Charts*™, *Clip Sounds*™, *Movies*, the *VideoWorks II*™ *Hypercard Driver* and *VideoWorks II*™ *Compiler* disks are also available.

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THE FIRST FAMILY



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OF GRAPHICS

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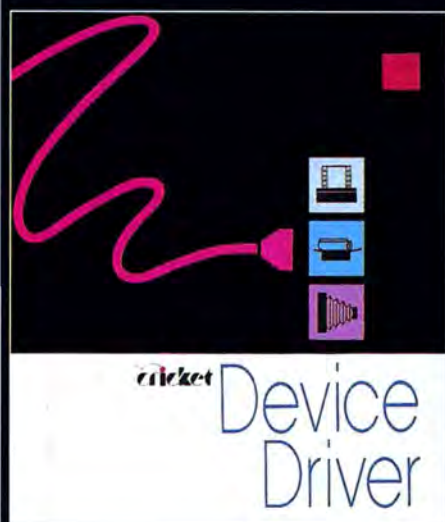
If you use your Macintosh for graphics applications, we'd like you to meet the full family of Cricket products.

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Modem Poll

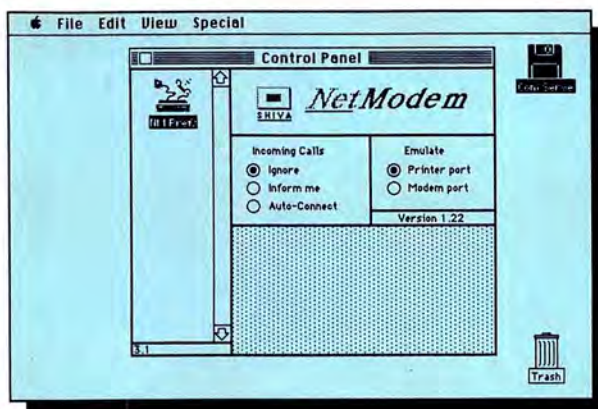
with ImageWriters, LaserWriters and other choosable applications. Just select the server you want to connect to and close the *Chooser* window. You are now connected to that *ComServe* server. A *ComServe* menu that you can use to set communication parameters has been added to the menu bar.

You can establish a personal password for individual *ComServe* servers (different for each server you can reach, if you like) and set specific options as soon as you connect to a server. One very useful option is an alert when a communication session

The V1200 is a 1200-baud modem that connects to the network as an independent node. It's not connected to a particular Macintosh.

is idle for a specified number of minutes. This is useful when you are connected to a commercial service and connect time is money spent. Once your options are set, you should then set the parameters for the serial device you are using.

Setting communication parameters for specific serial devices is one of the more difficult aspects of using *ComServe*. The default settings are set up for a standard Hayes-compatible modem. That's fine if all you're dealing with is a Hayes-compatible modem. However, some serial devices will require other settings. Devices such as modems, terminal ports and plotters require a "release string." This is a string of ASCII characters that tells a device to stop trying to get information from the host thus releasing that device from service. Selecting CONFIGURE SERVER from the *ComServe* menu allows you to set the appropriate release string for the device you are using. (You might have to consult the device's



By using the *Control Panel* and *NetModem*, you can set your Mac's printer port to emulate your modem port.



NetModem not only emulates the *NetModem*'s LED status lights on the screen, but also transmits the audio signal.

manual, especially if the release string is nonstandard.) All of the characters sent in a release string are interpreted as ASCII characters.

The Device Defaults menu screen allows you to set other important communication settings. These are such standard functions as bits per character, stop bits, parity, flow control and baud rate. Check your device's manual for the specific settings required. For normal serial devices such as modems and ImageWriters, the default settings shown work fine.

HARD SOLUTIONS

The NetModem V1200 from Shiva Corporation is a hardware solution to modem sharing. The NetModem actually includes both hardware and software, but it's the hardware that provides the power. The V1200 is a 1200-baud modem that connects to the network as an independent node. It's not connected to a particular Macintosh. Setting up the NetModem V1200 is as easy as connecting a LaserWriter. Simply plug in an AppleTalk connector to the back of the NetModem, plug the NetMo-

dem into a phone line and then turn it on.

Once the physical connection is established, NetModem startup disks have to be created. The necessary software is installed on floppy disks or hard drives using Apple's *Installer* program. You simply follow the standard *Installer* procedures. If you are using more than one V1200, you must use another Apple utility program called *The Namer* to give each a unique name. Both *Installer* and *The Namer* are included with the NetModem software.

Users begin by selecting *Chooser* from the Apple menu, highlighting the NetModem icon, selecting a specific NetModem and then closing the *Chooser* window. Your Macintosh's printer port is now "tricked" into thinking it is really a modem port. The next step is to launch your favorite telecommunications program, remembering to configure it to use the printer port. Some communication programs can't use the printer port if AppleTalk is connected. If that's your situation, the NetModem offers the option to config-

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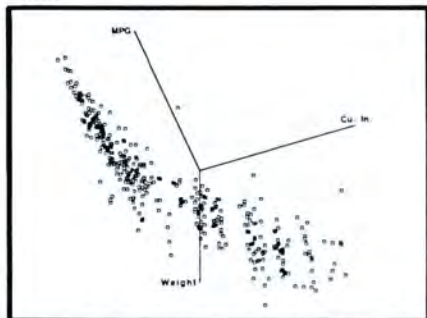
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ford torino	17	8	302	140	3449	11	1971
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Modem Poll

ure it to emulate the modem port.

There are some obvious differences between a regular direct connect modem and a network modem. For instance, with a network modem remote users can no longer see or hear their modem. The LED display on modems can be quite useful for monitoring the modem's status. Modems with built-in speakers let you hear when a connection is made.

Shiva covers these two cases in an elegant way. Once connected, the NetModem software displays a row of "LED" status indicators on the menu bar of your communications application. This status bar "blinks" the appropriate "lights" to alert you

to the status of the NetModem. Underneath this status bar is a NetModem menu. The NetModem V1200 also transfers the audio signals from the NetModem to your Mac. This allows you to hear the sounds produced by the NetModem.

One of the most powerful features of the NetModem is its ability to make a dial-in network connection. Dial-in network access offers users network access from a remote "dial-in" location. In order to accomplish this feat, you need a desk accessory called *Async AppleTalk*. This DA is also provided in the NetModem software package.

Once a dial-in remote Macintosh

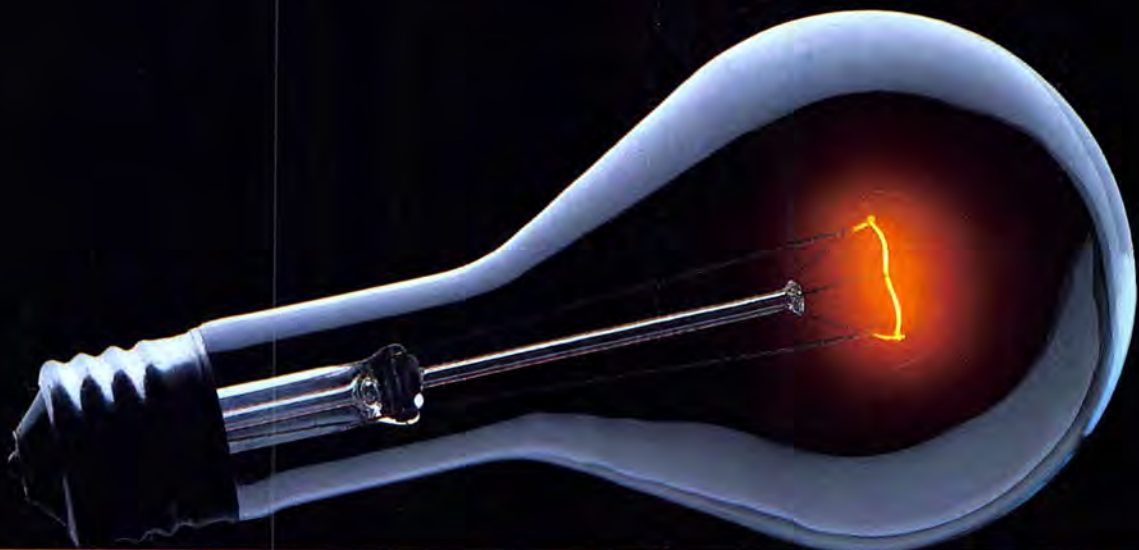
ModemShare or VaporWare

Another player in the modem sharing game is Mirror Technologies of Hugo, Minnesota. Mirror's product is called *ModemShare*. *ModemShare* was announced and demonstrated at the Macworld Expo last January and is a software-only solution to sharing modems on the AppleTalk network. Beta versions showed the product to be similar in design and as easy to use as *ComServe*. However, as of this writing, *ModemShare* was not commercially available. Repeated contacts with Mirror Technologies resulted in promises of *ModemShare* being released "very soon." Since *ModemShare* was not commercially available when this article was written, it was not included in this article. Hopefully, by the time this issue reaches the stands, Mirror will have released the final product. Here are some observations based on a beta 1.0 release of *ModemShare*.

ModemShare works with a Mac 512K, Mac Plus, Mac SE or Mac II and is very similar to *ComServe* in setup and operation. As a software-only solution you need a Hayes-compatible modem for each server. With the beta versions of *ModemShare* there were four possible configurations for the server. *ModemShare* can run in the foreground or background on any Macintosh and can run in the foreground or background on an *AppleShare* dedicated Macintosh. When running *ModemShare* as a foreground application, the Macintosh cannot be used for other applications such as word processing or spreadsheets. However, some e-mail programs like *inBox* can run in the background. *ModemShare* can also be run as a foreground application with the *AppleShare* file server. Mirror includes the file *AppleShare Installer* with the product. You use the *AppleShare Installer* to install *ModemShare* as a foreground application. A word of caution is in order, since *ModemShare* did strange things to other users on the network when running as a foreground application with *AppleShare*. Users are periodically "disconnected" from the modem because of *AppleShare* activities. Also, *AppleShare* seems to become confused when a user attempts to access *ModemShare* while multiple users are accessing *AppleShare*. When this occurs, *AppleShare* users are dropped from the network altogether. This problem may or may not be due to the beta nature of *ModemShare*. One way around the problem is to install *ModemShare* as a background application only with *AppleShare*. This can be accomplished by selecting BACKGROUND when installing *ModemShare* as the concurrent application with *AppleShare*.

You can run *ModemShare* as a background application without *AppleShare*. This procedure is much easier and requires copying *ModemShare Background* to the System folder of your startup server. This file is not an application, but *ModemShare* starts when you reboot your server. Workstation disks are the easiest to configure. You simply copy the *ModemShare* file to the System folder on a startup disk and then reboot their Mac. Workstations select a *ModemShare* server through the *Chooser*. Once you are set up, *ModemShare* is easy to use and configure.

Mirror has been hyping *ModemShare* for almost a year. It would have been nice to include their product. The beta release shows promise. It is too bad that *ModemShare* has to be vaporware. — BT



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Modem Poll

is connected to the NetModem via *Async AppleTalk*, its user has access to network services such as an *AppleShare* server or a *LaserWriter*. Be careful when working with this configuration, though. When you dial in to the NetModem you can interrupt normal network activity. Anyone using the NetModem when you dial in will likely lose the connection. The best way around this is to designate a particular NetModem for dial-in service only.

WHICH ROAD TO TAKE

Sharing printers and files on hard disks via a network has become old hat. Sharing modems is a new game. Both of these products offer different solutions to the same problem. If you already have modems, *ComServe*'s software-only solution is more cost effective than the NetModem. The difference in features is slight. *ComServe* does not provide for dial-in service, a valuable feature unique to the NetModem. The NetModem V1200 is a complete package. Deciding which direction to go depends upon your needs. Either way, you'll make better use of your telecommunications capability.

MARK VELJKOV IS A PSYCHOLOGIST WHO HAS BEEN INVOLVED WITH MICROCOMPUTERS FOR LONGER THAN HE CARES TO ADMIT. HE HAS BEEN ON THE EDITORIAL STAFFS OF MACAZINE, COMPUTING TODAY, PC PUBLISHING AND THE CAD/CAM JOURNAL FOR THE MACINTOSH PROFESSIONAL.

MAC USER RATING

ComServe ★★★★★

Infosphere, 4730 SW Macadam Ave., Portland, OR 97201. (503) 226-3620; Tech Support: (503) 226-1407. **List Price:** \$195.00 per Server. **Minimum Requirements:** Macintosh 512KE, System 3.2, Finder 5.3 or later, AppleTalk network, Hayes-compatible modem. Not copy protected; serialized.

MAC USER RATING

NetModem V1200 ★★★★★

Shiva Corporation, Suite 1200, 222 Third St., Cambridge, MA 02142-9919. (617) 661-2026; Tech Support: (617) 661-2026. **List Price:** \$599 per Server. **Minimum Requirements:** Macintosh 512KE, System 4.1, Finder 5.5 or later, AppleTalk network. Software not copy protected.

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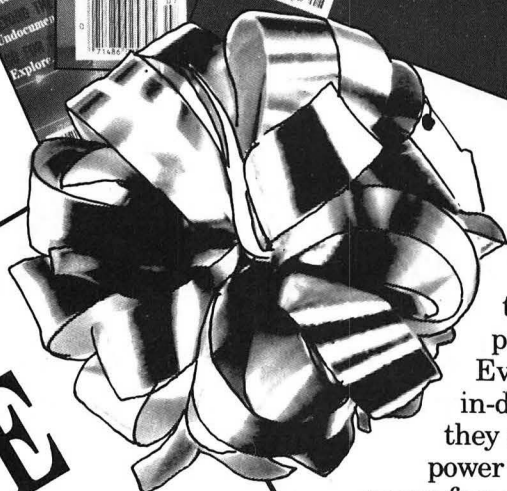
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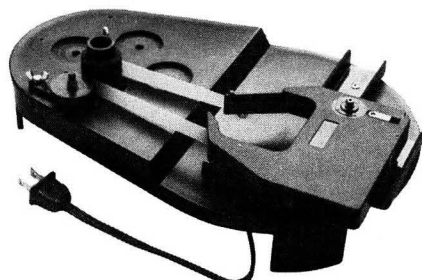
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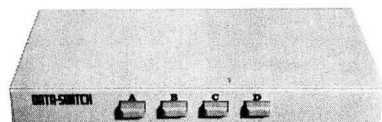


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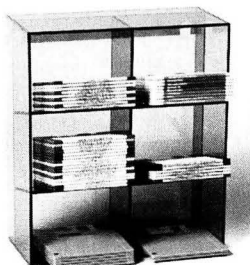
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and it might just be a
game, but Strategic
Conquest Plus sure
satisfies those atavistic
urges.

PERSUADING A FRIEND TO SIT DOWN and learn to play a wargame is easier than pulling teeth — but not much. Even the sharpest intellect can be intimidated by the need to memorize thick rule books and distinguish among the tiny card stock counters that represent the myriad machinations of war. For the connoisseur of tabletop combat, good competition is hard to find.

Armchair strategists will be delighted to find PBI's *Strategic Conquest Plus*, a large-scale wargame that turns the Macintosh into a silicon warlord, ready to wage or referee global warfare on a moment's notice.

The objective of the game is simple: conquer a 60-by-100-square world. Succeeding presents a cerebral challenge not found in other en-

BY JAMES D. HORNFISCHER



Live Long and Conquer

tainment programs. You must coordinate offense and defense, logistics and tactics in order to vanquish the computer or human opponent bent on your destruction.

You must pursue this grand design from modest beginnings. After booting the game (and selecting one of 15 skill levels if you're playing against the computer), hostilities get underway with each combatant in control of a single city in an unexplored world. Start by designating your city to produce a specific type of military unit (army, fighter, bomber, submarine, destroyer, transport, carrier or battleship). Once the number of days required to produce that unit has passed, it ventures forth into the maelstrom.

Against a human, you alternate turns at the keyboard, moving pieces in secret. When it's your turn at the console, you get a summary of the combat that took place while your opponent was moving. (The program also accommodates two players on opposite ends of an AppleTalk network.) Playing against the computer, you are treated to a bird's-eye view of a war escalating in pseudo-realtime. The screen automatically cuts to scenes of battle as the enemy moves. A hostile submarine may suddenly appear in the midst of your convoy and disrupt a planned invasion; a fighter might locate a troop concentration early one turn, and a bomber might smash it later. And because each unit can move every turn, the face of the war changes continually. The prudent commander retains the flexibility to react to any number of threats from air, land and sea.

GIVE AND TAKE

The *Strategic Conquest Plus* world is a zero-sum environment: with a finite number of continents and cities, one player's gain is the other's loss. PBI claims its algorithms can randomly generate more than two billion possible world configurations. Thus it's rare to face the same strategic situation twice. The world might consist of many small continents, the conquest of which will involve an island-hopping campaign akin to General Douglas MacAr-

thur's celebrated World War II Pacific strategy. Other times, the computer lays down a few large continents separated by wide gulfs of water, evoking World War II's Atlantic convoy epics.

The game designers adhered to the Macintosh format marvelously; in fact, experienced Mac users hardly need to read the instructions before playing. To move a piece, simply click the adjacent square you want it to move into, or click on the unit to be moved, hold down the mouse button and drag the arrow to set a linear course for the piece. Familiar fixtures of the Mac environment such as arrow keys and page icons scroll the map. Five menus contain a host of useful features that have keyboard equivalents. The "boss screen" function — standard to all insidiously addictive games — provides a measure of job security by blacking out the screen on command.

While not heavily laden with bells and whistles, *Strategic Conquest Plus* is attractive enough graphically to maintain player interest well past the freshness date of other games. Icons for individual pieces are quite nicely drawn. Veteran players will learn to fear hulking enemy battleships and sleek submarines, and drool upon locating fat enemy troop transports.

What's more, digitized sound effects mimic a speeding jet, a warship plowing through heavy seas and an army of tanks blazing away with machine guns and cannons. As an option, a computerized voice can narrate a battle's outcome. Perhaps the most satisfying sound and graphic feature is the black smear and explosion a bomber makes upon flattening an enemy target. It can be maddening, however, to see your own assets go up in smoke.

BATTLE STATIONS

Having so many types of military units available encourages the formulation of detailed strategies. An understanding of the tactical idiosyncrasies of individual pieces is essential to strategic planning.

The Battleship: With her powerful main armament, the battleship is queen of the seas. Prolonged, deci-

Triumph in *Strategic Conquest Plus* requires planning, timing, flexibility, savvy and, perhaps, a bit of luck. No one branch of the military can carry the day.

sive control of water routes requires a steady supply of these stout vessels.

The Aircraft Carrier: While they are powerful sea control vessels in their own right, carriers serve primarily as forward bases for fighter aircraft — most useful in locating enemy forces. A fleet with a carrier and several fighters is rarely surprised. Moreover, naval air superiority allows the player to locate targets for other friendly units.

The Destroyer: Without destroyer escort, the mightiest battleship and carrier armada is little more than a maritime Maginot Line. Enemy submarines abound, and are particularly aggressive against capital ships. Since destroyers have a special ability to spot enemy submarines, they are essential to a fleet's defense. With their high speed, destroyers are effective hunters of transports, too.

The Submarine: Invisible to adjacent enemy vessels except the destroyer, a sub can reduce a brand new capital ship to a crippled wreck in a single turn. They are less formidable when defending.

The Transport: Each of these workhorses can carry up to eight armies overseas. A small numeral on the transport's icon indicates how many armies are aboard.

The Fighter: The fastest of all pieces in the *Strategic Conquest Plus* arsenal, the fighter's ideal mission is reconnaissance. In military lingo, fighters are "force multipliers" — by scouting the enemy, they allow you to apply your strength more efficiently.



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Live Long and Conquer

The Bomber: Essentially a kamikaze that detonates upon moving over an enemy piece, the bomber is the weapon of choice for quickly reducing enemy strongholds to rubble. This is especially so late in the game, since a bomber's blast radius increases over time. At the war's outset, they are useful in surgically removing individual enemy units. A few hundred turns later they are devices of wholesale annihilation, capable of razing entire continents.

The Army: There is one type of land unit — the army. Only ground troops can seize and hold territory in wartime, the planet-busting weapons of the nuclear era notwithstanding. You may bomb the enemy back to the Stone Age, but without an adequate number of soldiers, no victory is possible.

With so many types of units available for production, designing a coherent strategy can be a dizzying task. The following are guidelines for creating a war machine from scratch and deploying it to win.

FIRST STRIKE

The successful *Strategic Conquest Plus* warlord will combine the best characteristics of Douglas MacArthur and Christopher Columbus; before grappling with the enemy, you must discover the world.

Because of the fighter's mobility, a good strategy is to produce one right away with the first city in order to explore your home continent quickly. Immediately after the first fighter is produced, reset the city to turn out armies which will move out and conquer any other cities the fighter finds. Start a port city building transports; keep the rest building armies.

Once your home continent is explored and its cities co-opted into your military-industrial complex, it is time to cast an imperial gaze on foreign shores. By now, your fighter will have flown over parts of other continents in its patrols over the ocean. Ready your transport to ferry troops to this virgin overseas territory.

Pile all the armies you can at a des-

ignated pick-up point close to the frontier. This is the first step in establishing supply lines — the transport can be loaded repeatedly from the same point. To conquer the most continents in the shortest period of time, disembark only two or three armies at any one continent. Let the first city taken produce the armies needed to conquer the remaining cities. Meanwhile, the transport can go on to seed a few other continents in the same way.

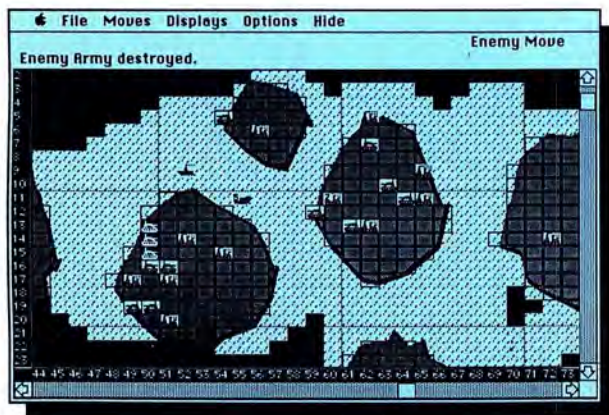
Having accumulated a mass of armies and with another transport under construction, you will want to begin building a navy to protect your troop carriers. Start with destroyers. They can be built quickly and should accompany your transports on their journeys into darkness. Warships will serve another role: striking deep into unexplored territory to interdict the enemy's expansion. Speedy destroyers are suited to chasing enemy transports and submarines. Battleships will last longer behind enemy lines and wreak greater havoc in the long run. Have a carrier handy to reconnoiter the enemy. A balanced force structure is the key.

As you expand, set frontier cities to build armies. This shortens your supply lines by keeping your men close to the action. Away from the action, armies are merely useful in reconquering any remotely located cities the enemy bombs. Cities far from the front can afford the leisurely pace of manufacturing expensive pieces like bombers and battleships.

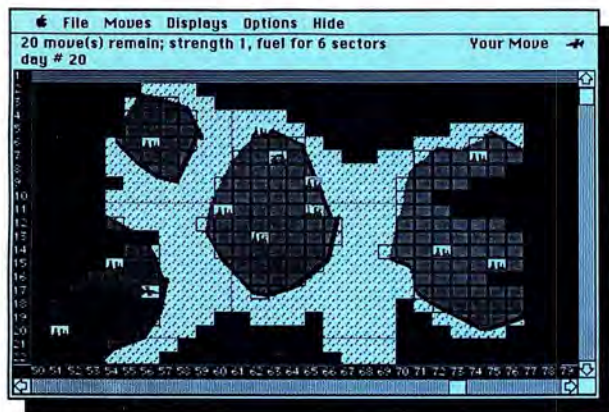
Above all, remember the importance of speed in the initial phase of empire building. He who conquers the most cities at the outset (and denies the same to the foe) will have a larger industrial base after the world is explored, the lines of battle drawn and total war with the enemy begins. Somewhere, in a far corner of this world, a hostile empire is taking root, too.

GOING FOR THE KILL

Triumph in *Strategic Conquest Plus* requires planning; timing, flexibility, savvy and, perhaps, a bit of luck. No one branch of the military can carry the day. The virtually infinite number of strategic puzzles the

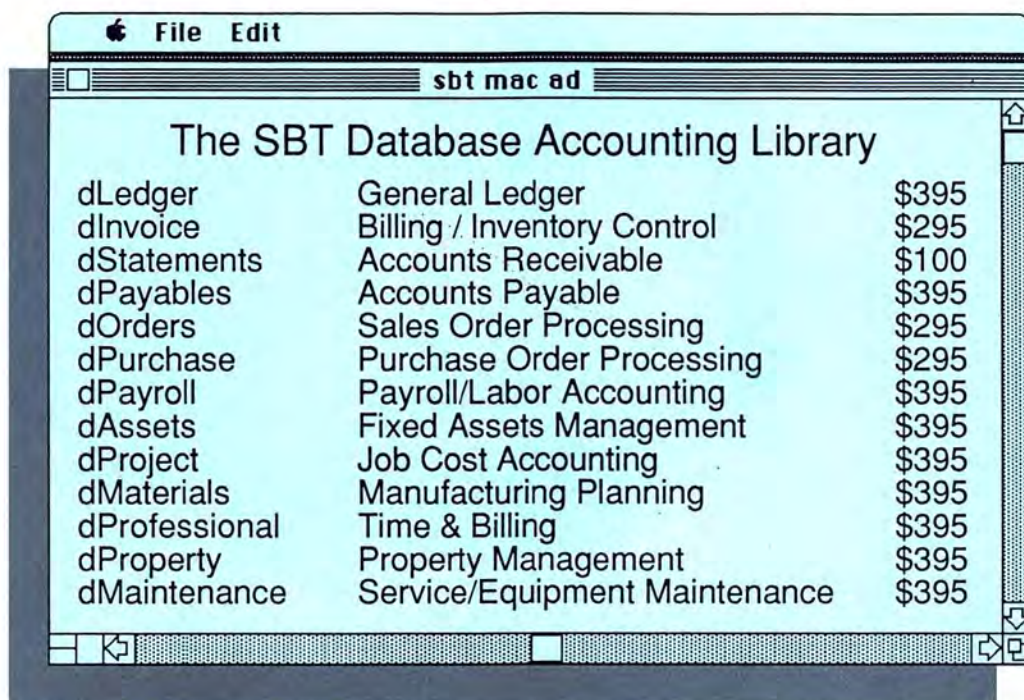


First contact with the enemy: In the middle of the world, fledgling empires meet. A destroyer (9,52) circles the island to blockade enemy reinforcement via transport and to clear the seas for the friendly transport (11,55) to land its armies on contested real estate. Armies on the home continent are heading for a designated pickup point at (12,59).



Twenty turns later, the bigger picture. Note that the player has three cities producing the materiel of war, with an army (7,63) marching to conquer a fourth. The fighter (17,56) has discovered three new continents from its base cities on the home continent. The "seed" city is at (11,65).

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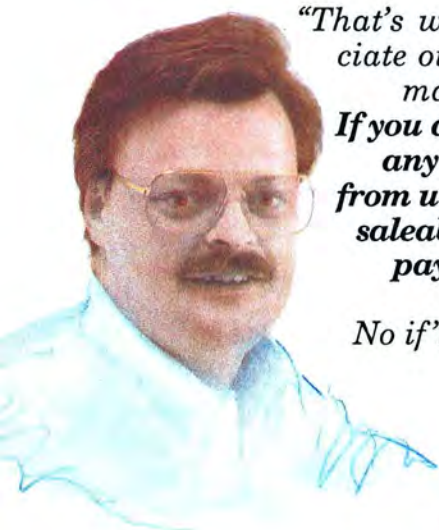
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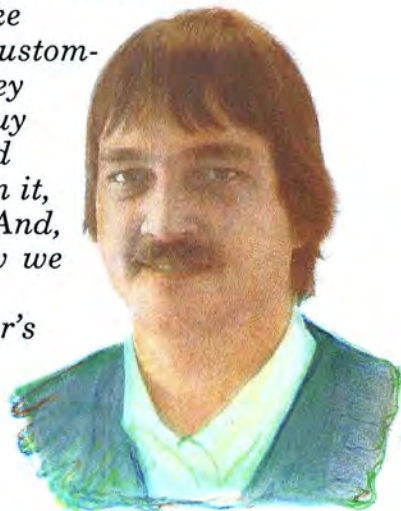


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Live Long and Conquer

game presents, makes it impossible to formulate a definitive primer on grand strategy. Rather, a few tactical tips provide insight into what it takes to win. As modern militaries rehearse for wars they do not yet know how to fight, so must the *Strategic Conquest Plus* player learn some basic stratagems, whatever shape the war might ultimately take.

ON THE HIGH SEAS

- *Zig-zag to maximize patrol coverage.* Move your pieces in zig-zag patterns when on the prowl for enemy units. You cover five spaces for each diagonal space moved, as opposed to three for each space moved north, south, east or west. If you want a piece to elude detection — as when sneaking a transport through a strait — minimize its chances of bumping into the enemy by avoiding diagonal movement.

- *Spot tell-tale signs of enemy subs.* Watch your fighters carefully as they fly over water in an automatic (called a destination or patrol) mode. They slow down noticeably when moving

past an undetected enemy sub. Although the foe remains invisible, this minor bug in the program betrays roughly the location of a lurking sub. Dispatch a destroyer to pinpoint and prosecute the stalking menace.

- *Move escorts first.* Whenever a destroyer and its charge approach a narrow strait, send the destroyer through first, zig-zagging to maximize the chance of finding an enemy sub. (Use the MOVE LATER function to move the escorted ship last.) Make sure the escortee follows the same path the destroyer takes.

- *Don't "trip" over enemy subs.* Enemy submarines pose yet another threat. In addition to being lethal hunters, they are effective passive weapons as well. Suppose your transport is one day from the beachhead. As soon as you direct it to move in, however, you find it inadvertently attacking an enemy submarine that is lying invisible off the coast. You have wasted a critical movement point. If you don't kill the sub now, your troop carrier will never reach the beach.

Having a bomber hit a sub and detonate over the ocean a few spaces from the intended target is equally frustrating. Clicking and dragging to move is an easy way to prevent this — your piece will revert to manual movement when running into a sub. (A battleship that stumbles upon a submarine in this manner will destroy it.)

IN THE WILD BLUE YONDER

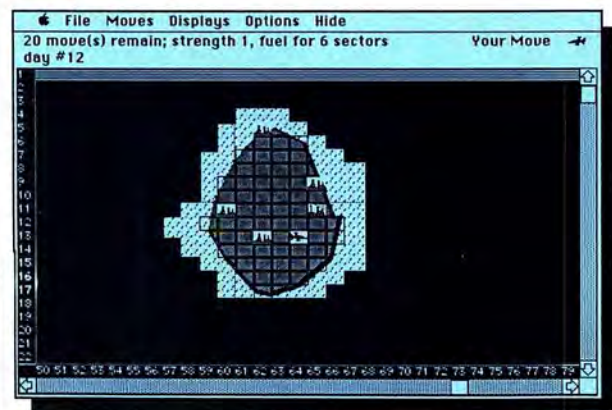
- *Skirt the edges of heavily patrolled territory.* In this game, the shortest distance between two points is not necessarily a straight line. To circumnavigate a bomber around dangerous territory en route to a city — say, 20 squares directly east — travel on a southeast diagonal 10 spaces, then head northeast 10 spaces.

- *Be conservative with carrier-borne fighters.* Carrier operations are hazardous business for fighter pilots. You'll probably run a few birds out of fuel before you get adept at it. To be safe, avoid sending carrier-based fighters out to their maximum range. Fly them out just a few spaces and they'll still have enough fuel to reach the flattop should it have to reverse course unexpectedly to get out of harm's way.

- *Erect barriers against enemy aircraft.* Frontier continents close to enemy territory will have their air space continually invaded by hostile fighters, and enemy bombers will make a mess of production. Life gets difficult indeed.

To halt this violation of your airspace, line up a string of armies on the coast. Then your bombers may approach the front without being discovered, since enemy fighters cannot fly through your shield of troops. This also closes the door for enemy bombers trying to get at your interior cities.

- *Escort your bombers.* Fighters can multiply the effectiveness of bombers in several ways. They can (1) locate targets for bombers; (2) find holes in enemy lines for bombers to slip through on deep strike "stealth" raids; (3) protect bombers by drawing off enemy fighters or interposing themselves in the path of attack; (4) spot an invisible enemy sub before a



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Live Long and Conquer

bomber accidentally detonates on it.

- *Wake patrolling fighters in time.* Should you discover a distant enemy bomber or transport that can be reached only by a fighter, use the "wake" function to return patrolling or destination-moving fighters to the manual mode. Send them to make the kill before they expend their movement points automatically.

OVERLAND OPERATIONS

- *Go for the enemy's cities.* Where possible, march past enemy armies to grab a city. Capturing it for a single turn disrupts the production of whatever was under construction.

- *Reinforce the point of attack.* Ferry armies from rear areas to buttress an invaded continent's garrison. Keep a bomber or two ready to strike at the critical moment, either against

masses of enemy armies or their supporting warships. Where you have the luxury, risk a loaded transport to land troops elsewhere. The enemy may have committed everything to his own offensive, leaving other sectors bare.

- *Disembark armies from a transport before letting them fight.* Although armies aboard a transport may attack enemy units on the coast, this is not wise. An army that has engaged in combat will not be able to go ashore until next turn, forcing the transport to stay in dangerous waters for an extra day. By moving armies onto land immediately, your transport can head back right away to load more armies.

BEATING THE COMPUTER

The prospect of dueling the computer can be intimidating. It executes its turn with great speed; at the higher skill levels it enjoys an advantage in combat resolution, too. The human mind reigns supreme in war nevertheless, for unpredictability and daring are greater assets than silicon methodicalness. Whatever strengths the computer has, after a few games it becomes clear that it is as much idiot as savant.

- *Give your subs some breathing room.* Steer submarines away from major invasion sites. Because the computer vectors swarms of fighters (unrelenting sub hunters) over contested real estate, it is advisable to keep your undersea marauders on the enemy's flanks, penetrating to the rear or cruising the deep blue sea six or more spaces from land. Enemy fighter activity is less intense there, and your sub might happen upon a juicy target.

- *If you cannot catch a sub, scare it off.* Should you spot an enemy submarine approaching a vulnerable transport, and your destroyer cannot quite reach it, place it between the enemy and your transport. The computer submarine will about-face and flee upon encountering your destroyer.

- *Lure enemy dreadnoughts away from their prey.* If, for example, a computer battleship turns up a short distance north of your undetected transport, draw it further away by

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Live Long and Conquer

passing a warship to the dreadnought's north. The mindless vessel will pursue the lure, and the transport can continue unmolested.

- *Avoid fighter combat.* Don't try to match the computer in aerial combat. Its fighters are a dime a dozen and seem to down your planes by a ratio of about 4:1 at higher skill levels. Save your fighters for reconnaissance.

- *Entice the computer to mass its forces.* To chip away at the computer's numerical superiority at the higher skill levels, bait it into concentrating its forces in one area, where your bombers can destroy them en masse. The computer will swarm its warships to attack one of your battleships — ideal bait. Once your vessel is surrounded (and probably very close to sinking) bring in the bomb-

ers to end the show. Use the MOVE LATER function to limp your ship to a port for repairs before the airplanes blast the area.

Employ the same tactic to wipe out enemy armies bulk rate. Before invading an island all-out, land a small expeditionary force to seize one city.

When the computer brings in its hordes from scattered locations to retake the city, unshackle your bombers. With most of your armies offshore aboard transports, there is no danger they will be caught in the mushroom cloud.

- *Read the enemy's moves.* The computer often betrays its intentions to the observant Strategic Conqueror, so pay close attention to what and where it attacks. If it bombs or shells armies on the coast with naval units, that continent is in imminent danger of invasion. A clever human opponent will feint at various places before D-Day; the computer is less creative about masking its objectives.

While *Strategic Conquest Plus* is not a realistic combat simulation, it can give you an intuitive appreciation for the complexities of modern warfare.

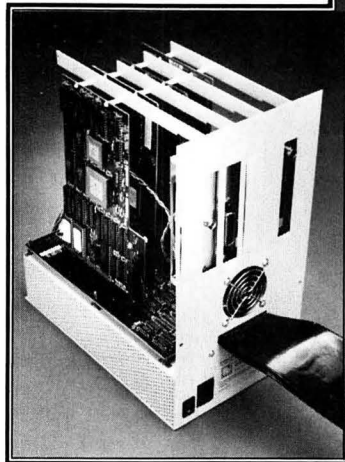
In fact, the most instructive aspect of the game is the easiest to overlook — the so-called C3I: command, control, communications and intelligence.

Unlike most tabletop wargames where pieces stay visible throughout the contest, *Strategic Conquest Plus* takes care of concealing and revealing units in the field. (Contrast this to the cumbersome hidden movement systems of some board games, where players must record their units' positions on paper until their discovery by the enemy.) With the computer keeping the books, you can focus on gathering accurate intelligence about the enemy's movements.

Fighter pilots and ship captains report their contacts to you instantaneously. (As soon as they spot the enemy, you know about it — you see their every movement.) An invisible communications network relays their raw Intelligence to you for analysis. Imagine a web of satellites orbit-

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Macintosh SE and Macintosh Plus with a variety of SE option cards: accelerator boards, large screen displays, communications cards, IBM® compatible co-processor cards, industrial and instrumentation interface cards, etc.

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position the chassis underneath the desk. ExpanSE and ExpanSE Plus carry a one-year warranty and retail for \$995.

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Live Long and Conquer

ing the world, allowing the on-scene commander to reach you from the far side of the globe. It's up there; you just don't see it — perfect communication.

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With this wonderfully playable yet intricate program, PBI has superseded the tired genres of shoot-'em-up arcade spiels and rigidly structured text adventures. Though it's generally true that a real friend can never become an enemy, *Strategic Conquest Plus* is enough to turn the best of pals into warring Caesars.

And even if your buddies don't rush to join the bit-map battle, the Macintosh stays on call 24 hours a day. With an enemy like that, you might find yourself wondering: "Who needs friends?"

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MAC USER RATING

Strategic Conquest Plus

★★★★½

Follows Mac Interface	■ ■ ■ ■ ■
Printed Documentation	■ ■ ■ □ □
On-Screen Help	None
Performance	■ ■ ■ ■ ■
Support	■ ■ ■ ■ ■
Consumer Value	■ ■ ■ ■ ■

Comments: Discover an unexplored world and conquer it by manufacturing and deploying armies, navies and air forces.

Best Feature: With a practically infinite number of possible world configurations and force structures to work with, it demonstrates the importance of logistics and cohesive grand strategy. **Worst Feature:** Although a two-disk game, the program does not support an external drive. **List Price:** \$59.95. Requires 512K. Published by PBI Software, 1111 Triton Drive, Foster City, CA 94404. (415) 349-8765. Copy protected.

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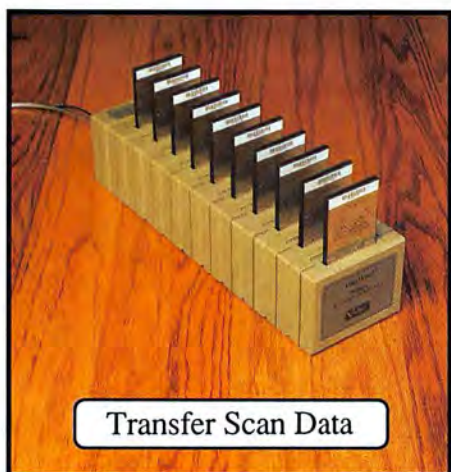
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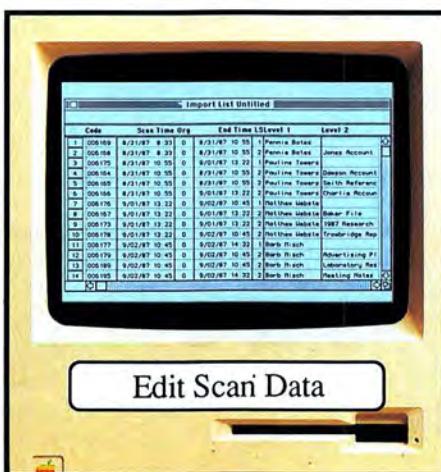
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Scan ID Card



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Document Control Report
File Room #5
September 4, 1987

Code	Description	Employee	Date
006168	Jones Account	Pennie Bates	8/31/87
006164	Dawson Account	Pauline Towers	8/31/87
006165	Smith Reference	Pauline Towers	8/31/87
006166	Charlie Account	Pauline Towers	8/31/87
006167	Baker File	Matthew Webster	9/01/87
006173	1987 Research Budget	Matthew Webster	9/01/87
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006183	July Computer Sales	Pennie Bates	9/02/87
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006187			9/03/87
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Ever wonder who has that important file on the Jones account? There is no record of who took it from the file room and no one remembers who had it last. You spend your valuable time and patience tracking it down, but when you finally locate the file, it may be too late for timely use.

Make it easy on yourself by tracking documents with the TimeWand. By simply scanning the bar code on the Jones file and your employee ID number (or department name), the TimeWand records who has the file *and* the time it was taken.

The TimeWand is simple to operate, yet provides the data necessary to create detailed reports. Generate reports by incorporating data collected with the TimeWand into your data base. The reports allow you to quickly find who has those important files, check a file's current activity, identify which items are 'slow movers', or show the amount of traffic the file room handles each day.

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Open Door Policy

Hands off the Mac.

Easy Access gives

people with movement

disabilities full access

to Mac software.

DOORS AND BARRIERS, FREEDOM AND frustration. That's what this article is about.

To one person something can be an open door, an opportunity, while to another person, it can be a seemingly insurmountable barrier. The Macintosh is a good case in point. With its graphics interface, pull-down menus and mouse-driven software, the Macintosh has managed to go where no computer has gone before and has let most users climb to unheard-of (at least in 1984) heights of unleashed creativity and productivity. But for others, the Mac was not nearly so liberating.

Physically disabled users who had limited use of their hands faced an incredible frustration when the Mac was introduced: In order to use the

easiest, most liberating computer ever built, they needed not only two good hands, but three! The mighty mouse turned monster.

CONTORTIONIST KEYSTROKES

Matters only grew worse with the advent of powerful software that strove to put a multitude of "convenient" keyboard commands at users' disposal. However, the absence of dedicated or programmable function keys on the Macintosh keyboard led to a wild assortment of finger-twisters using what keys were available. The acme of cockeyed key combinations came with *Word 3.0*, where users were told they could type such arcane keystrokes as SHIFT-COMMAND-OPTION-S (to open or close a footnote window, of course) and COMMAND-OPTION-RETURN (to insert a paragraph mark, naturally). And Microsoft is not the only propagator of keystrokes only Rosemary Woods could love. Apple, too, has its share. Would you believe COMMAND-OPTION-SHIFT while selecting the *Control Panel* from a pull-down menu? On an SE or Mac II, this resets your computer's *Control Panel* settings to the factory defaults.

Apple's original marketing angle for the Macintosh was "the computer for the rest of us," but until recent-

BY DAVE VALIULIS



Open Door Policy

ly the "rest of us" did not fully include people who had restricted upper-body movement — over 1 million people in the United States alone (the total number of disabled people in the United States is sometimes numbered as high as 36 million).

Happily, that omission has now been corrected. Apple has quietly introduced an inventive piece of System software that allows even the most convoluted keyboard command to be performed with one hand, one finger or even a mouth stick. Better yet, it also lets you issue all mouse movements from the key-

board. This last feature makes it a favorite of non-disabled users too, the so-called power user who is whizzing along so fast on the keyboard that every interruption to use the mouse is irksome and to be avoided if possible.

This software is called *Easy Access* and it was part of the *System* update released in mid-1987 when *Finder* 5.5 and *System* 4.1 hit the streets. But because it was just one little part of a major upgrade to the System software, not many people noticed it, and fewer understood it. And if your dealer neglected to include the scanty documentation on *Easy Access*,

you had no way to figure out on your own what it was supposed to do. Even now, a public relations person at Apple admitted she didn't know it existed. Sadly, many disabled people could be benefitting from it right now if only they knew about it.

How many people have this icon in their System folder and have wondered just what it is?



Easy Access

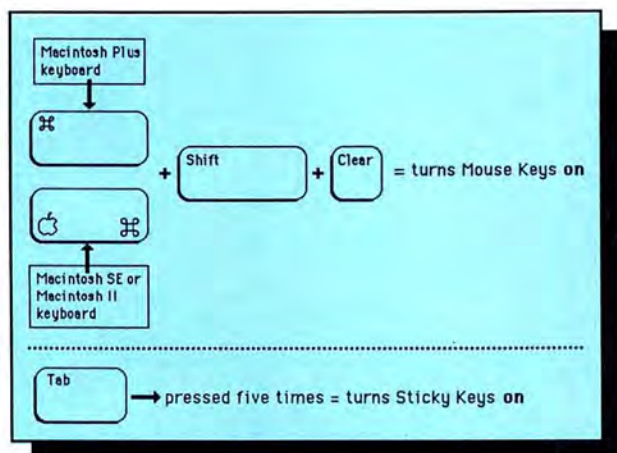
Lots, I bet. And how many people don't have it in their System folder but should? Also lots. Disabled or not, if you don't have it, get it. It's wonderful — and it's free.

Free is sometimes equated with insignificant, but not so here. Far from being a piece of fluff, *Easy Access* represents an important achievement in what the Macintosh can do "for the rest of us" — all of us this time. Apple representatives (those that know it exists, that is) like to call it an electronic "curb cutter," and in many ways it does the same job as the urban construction worker demolishing cement corners and replacing them with wheelchair-accessible ramps. Computers, like sidewalks, are meant to enrich everyone. But it takes a program like *Easy Access* to open the door for all those potential users of Macintoshes who were frustrated by the two-hand bias of the Mac keyboard and mouse.

BREAKING THE TWO-HAND BIAS

Easy Access is actually two programs in one. The first part allows you to type single-handedly (literally) any command that's meant to have several keys pressed simultaneously. For example, you could use one hand to perform the common COMMAND-P shortcut for PRINT (and I don't mean performing a thumb-pinkie stretch across the length of the keyboard to do it).

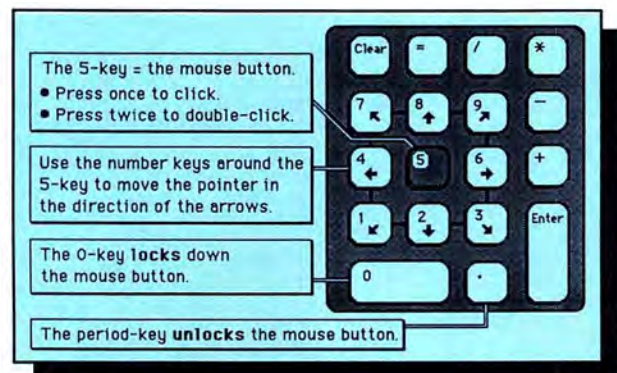
You install *Easy Access* by putting the file in the System folder (but it will only work with *System* 4.1 or later, which means it will not work on a 128K or unenhanced 512K machine) and resetting your computer.



It takes these unusual keystrokes to activate the *Easy Access* modules. Note that there is no mention of the 512K Mac keyboard. *Easy Access* can work only with *System* 4.1 and later; the 512K Mac can use (at best) *System* 3.2.



The Sticky Keys icon appears at the far right of the menu bar. The downward arrow tells you that a modifier key has been pressed and is considered "down" when you press the next key.



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Open Door Policy

Then press the Shift key five times in a row. Be careful not to move the mouse at all while pressing Shift, or you'll have to start all over.

Having done this, you should see a special icon at the far right of the menu bar that looks like a little cup.

This icon tells you that the so-called modifier keys (Option, Shift, Command and — on the SE and II — Control) are now "sticky," which means the modifier key you press stays in effect until you type any other type of key.

With Sticky Keys turned on, you type as usual until you want to type a multiple-character keystroke. Instead of pressing the keys together, you can now press them in sequence. When you press one of the modifier keys, the icon changes to a down-arrow indicating that the last key you typed is still pressed.

Pressing another modifier key continues to display the down-arrow icon (so you can type Option-Shift or Command-Option combos). When you type a regular key, the icon changes back to the open cup and the multiple keystroke takes effect.

If you press the same modifier key twice in a row, you see a filled-cup icon, which means that the key is "locked" in the pressed state. This locked state is convenient if you plan to do a lot of cutting and pasting and want to keep the Command key pressed. Press the Command key again to unlock it. To turn off Sticky Keys, press any two modifier keys at the same time. All icons in the upper right menu bar will disappear.

Here's how you'd use Sticky Keys to type a bullet character (•, available in Mac fonts as Option-8): First press Option (and then release the Option key), and then type the number 8. Admittedly, it is possible (barely) to type a bullet with one hand without using Sticky Keys. But how about an em-dash — which is Option-Shift-hyphen? Try that one with one hand!

FROM FRUSTRATION TO FREEDOM

The other half of *Easy Access* is called Mouse Keys. With this part of the program, users can opt to use the numerical keypad to move the cursor instead of actually rolling the mouse

around. Anything you can do with the physical mouse can be done using the keys on the keypad, including dragging and double-clicking.

Even better, you can use Mouse Keys in conjunction with Sticky Keys. This lets you, for example, Shift-click from the keyboard or use *PageMaker* 2.0's COMMAND-OPTION-CLICK shortcut to toggle from regular to reduced view.

To turn on Mouse Keys, you must press the bizarre keystroke combination COMMAND-SHIFT-CLEAR (Apple didn't want you pressing this by accident and didn't want it to conflict with any application's command). But whoa, how could someone who could not easily use both hands press

COMMAND-SHIFT-CLEAR? I'm glad you asked; they could use Sticky Keys, of course.

Once Mouse Keys is on, you will not see an icon as with Sticky Keys. But if you press any of the number keys on the numeric keypad, the pointer moves in the appropriate direction. The 8-key moves the pointer up; the 2-key down; the 6-key to the right; the 4-key to the left; and the 7, 9, 1 and 3 keys move it off at the four diagonals. The 5-key, nestled in the middle of the directional keys, represents the mouse button. Pressing it once is the same as clicking the mouse button; pressing it twice is a double-click.

The 0-key on the keypad has the

Where to Go for Help

Software and hardware solutions for the physically disabled are a specialized field that gets very little mainstream attention. To help get the word out and the job done, Apple is cosponsoring the development of centers across the United States that promote education and development of computer tools for the disabled. This ambitious program is called the National Special Education Alliance. To date, there are 11 participating centers (Apple hopes for 50 by the end of 1988). For more information, contact one of the organizations below, or call or write Apple's Office of Special Education at 20525 Mariani Ave., MS 23-D, Cupertino, CA 95014; (408) 973-3854.

Children's Hospital Resource Center

1056 E. 19th Ave.
Denver, CO 80218-1088
(303) 861-6633

Communication Assistance Resource Service

3201 Marshall Rd.
Kettering, OH 45429
(513) 298-0803

Computer Access Center

2425 16th St., Rm. 23
Santa Monica, CA 90405
(213) 450-8827

ComputerCITE

Valencia Community College
215 E. New Hampshire
Orlando, FL 32804
(305) 299-5000, ext. 329

Disabled Children's Computer Group

2095 Rose St., 1st Floor E.
Berkeley, CA 94709
(415) 841-3224

Disabled Citizens Computer Center

Council for Retarded Citizens
1146 S. 3rd St.
Louisville, KY 40203
(502) 584-1239

Massachusetts Special Technology Access Center

c/o The Exceptional Parent Foundation
605 Commonwealth Ave.
Boston, MA 02215
(617) 433-5434

effect of clicking the mouse button and keeping it pressed. This is the key you would use for any mouse movement that involves dragging, which includes choosing menu commands. The period-key on the keypad unlocks the mouse button after you have locked it with the 0-key. To turn off Mouse Keys, you press the Clear key (which is on the numeric keypad).

Here's how you would use Mouse Keys to select a command from a menu.

1. Press COMMAND-SHIFT-CLEAR to turn Mouse Keys on. (Use Sticky Keys to do this, if you need to.)

2. Use the 7, 8 or 9 keys (on the keypad) to move the pointer up to

the menu bar. Then use the 4 or 6 key to move the pointer to the right or left over the menu of your choice.

3. Press the 0-key to click and lock the mouse button. This pulls down the menu.

4. Use the 2 or 8 key to go up or down the pulled-down menu.

5. When the command you want is selected, press the period key to release the mouse button and invoke the command. To leave the menu without making a selection, pass outside the menu and then press the period key.

A single tap of any of the directional keys will move the pointer one pixel in that direction; keeping the key pressed results in accelerated move-

ment according to the mouse-tracking setting in the *Control Panel*.

Using Mouse Keys takes some practice — but then so does using the mouse. The easiest way to get started with Mouse Keys is to set the mouse speed in the Control Panel to the slowest speed (set it to Tablet). That way, the cursor won't go zooming off to the edge of the screen before you know what's happening.

Note that the *Control Panel* must also have its Key Repeat setting turned on for Mouse Keys to work. This is unfortunate since many disabled users of computer keyboards diligently turn this feature off (or wish that they could on non-Macintosh computers), since their motor control is not always good enough to keep from getting multiple llettttersss. But by setting the "key repeat rate" to Slow and the "delay until repeat" setting to Long, you can minimize the danger of unwanted duplicate letters.

Easy Access works with any program and completely frees you of having to use the mouse or of having to type with two hands. Some programs — notably *Word 3.01* — already give users access to the menus and most commands with keyboard commands, but even in that program there are selections in dialog boxes that cannot be chosen from the keyboard. Until now.

Easy Access does assume the user can type with at least one finger or a mouth stick, however. If this isn't the case, there are other programs available that replace the keyboard altogether. See the sidebar for more information on using the Macintosh without the mouse or the keyboard.

Easy Access is only 3K and is available free from any dealer. But being small and free does not make it insignificant or worthless. Thanks to this small program, where before there was a closed door, there is now entry. Where before there was frustration, there is now freedom. Disability should not mean inability. *Easy Access* helps make that true. ☐

DAVE VALIULIS WAS SET FREE BY THE MACINTOSH IN 1984 AND HASN'T BEEN THE SAME SINCE.

Nevada Computer & Technology Center for the Disabled

819 Las Vegas Blvd. S.

Las Vegas, NV 89101

(702) 382-3358

Pacer Center Inc.

4826 Chicago Ave. S.

Minneapolis, MN 55417-1055

(612) 827-2966

Technical Aids and Assistance for the Disabled Center

Illinois Children's School & Rehabilitation Center

1950 W. Roosevelt

Chicago, IL 60608

(312) 421-3373

Technology Resources for Special People

Salina Technology Coalition

3023 Canterbury

Salina, KS 67401

(913) 827-0301

Two other organizations deserve attention:

Closing the Gap

Box 68

Henderson, MN 56044

(612) 248-3294

Trace Research & Development Center

S-151 Waisman Center

1500 Highland Ave.

Madison, WI 53705

(608) 262-6966

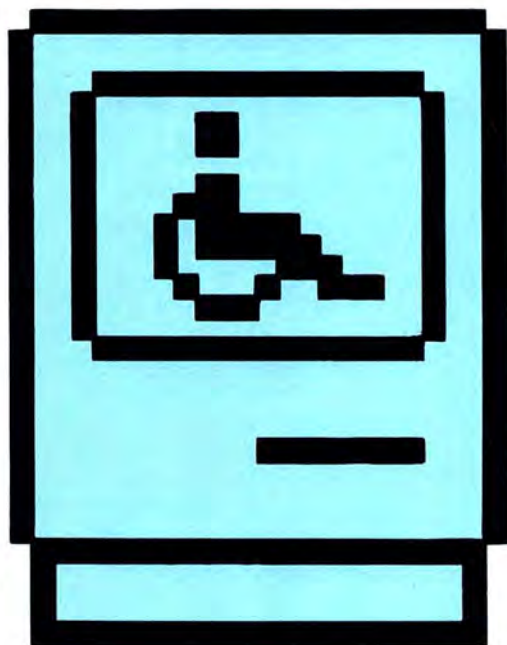
All of the above organizations are invaluable resource centers; most conduct workshops; several have newsletters; and all can refer you to other public and private organizations, publications and vendors.

Another important source of up-to-date information comes from Apple's comprehensive data base of disability-related (and Apple-compatible) products and publications. This data base, called *Special Education Solutions*, is available in AppleLink (the telecommunications network that Apple dealers use) and in SpecialNet (a private network devoted to special education). Have a friendly dealer access AppleLink to search the data base for you, or contact SpecialNet at 2021 K St. NW, Suite 315, Washington, DC 20006; (202) 296-1800.

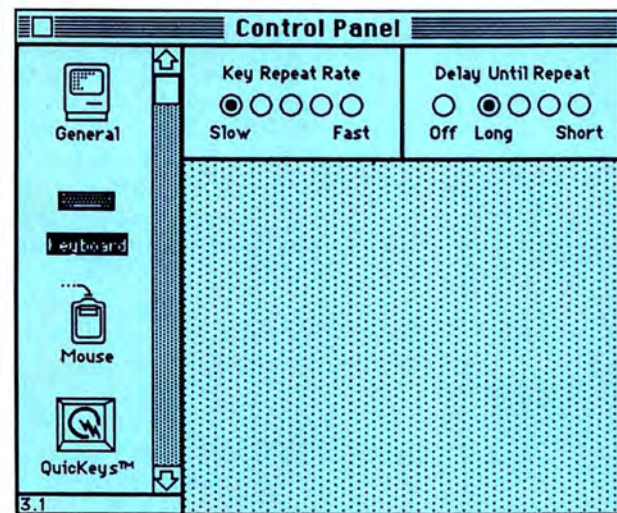
Open Door Policy



This is what the screen looks like at twice the normal size with *inLARGE*. You can toggle the normal-size view to orient yourself on the image and to quickly move the pointer to a particular spot.



At the incredible enlargement factor of 16 times normal, one icon is too large to fit comfortably on a Macintosh screen. Not many users would need this degree of enlargement, but for those that do, it would be nothing short of a godsend.



In order to use Mouse Keys, the Repeat Keys option in the *Control Panel* cannot be turned off — contrary to the preferences of many disabled users. To reduce the chances of generating unwanted duplicate letters, you should set the delay and repeat rate as shown. With these settings, it takes almost 3 full seconds before the character repeats.

Off-the-Shelf Solutions

Easy Access takes the easy way out when it comes to solving the challenge of how to handle mouse-driven commands from the keyboard: instead of giving you equivalents for the commands, it gives you equivalents for the moving the mouse to issue the commands. Although this is utilitarian, it is not particularly efficient. To click OK in a dialog box, you still have to move the pointer across the screen to position it over the button and then click. At best, this method saves no time or effort; at worse, it's actually slower and more cumbersome.

Another program that cuts the knotty problem of making the Mac mouseless does it in another way. The program is called *QuickKeys*, and it's a super-duper keyboard enhancer. (See our review in the January '88 issue.)

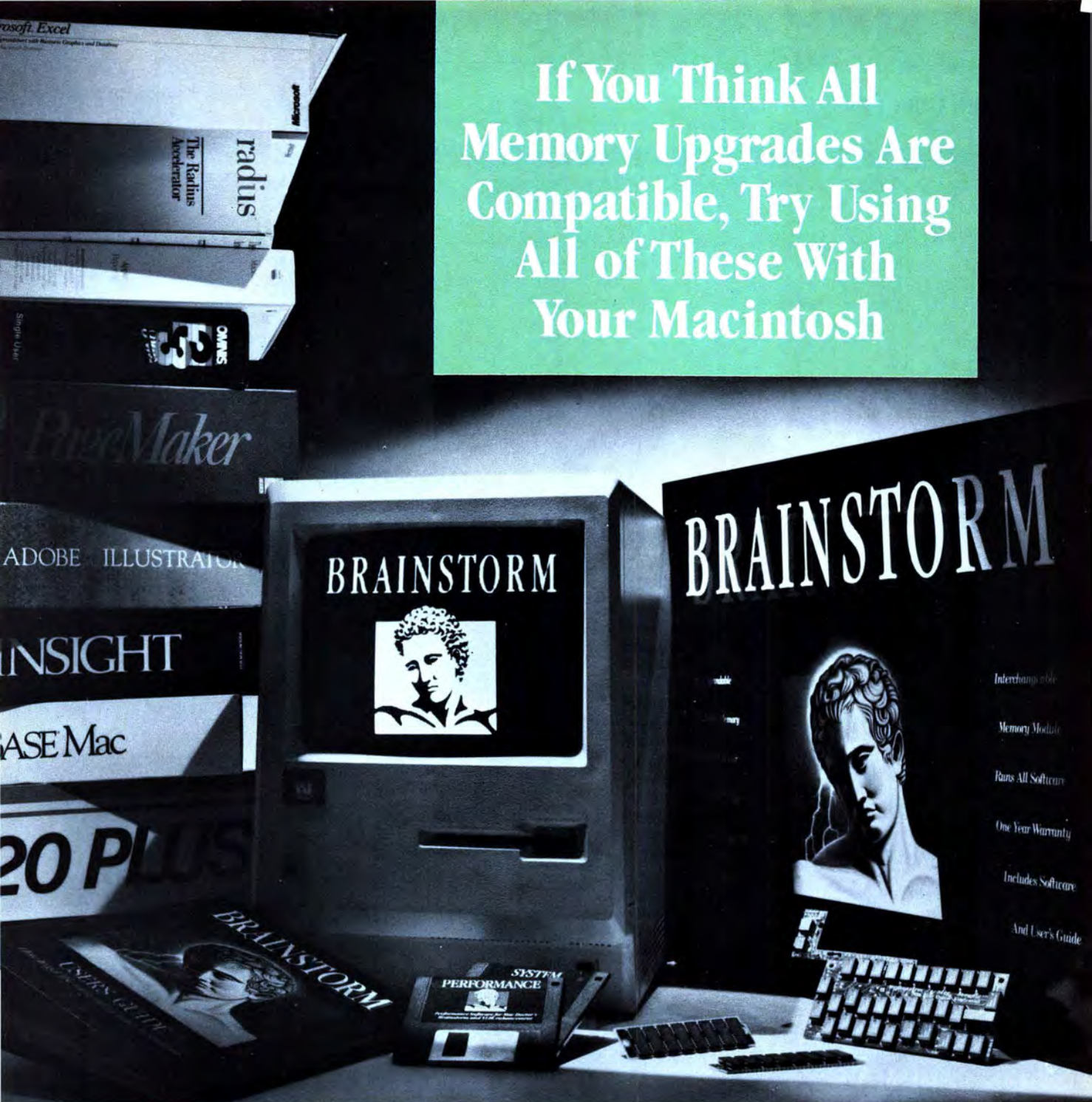
Relying on the modular *Control Panel* introduced in the 4.1 *System*, *QuickKeys* installs as a cdev resource. What this means is that once placed in the System folder, it becomes a device in your *Control Panel*. Aside from letting you do just about anything in terms of assigning text, menu items, mouse clicks and function keys to any keyboard combination, *QuickKeys* also lets you select or deselect the options of any dialog box — including radio buttons and check boxes — by typing user-defined keystrokes. When used in combination with the Sticky Keys option of *Easy Access*, *QuickKeys* becomes the power user's program of choice for one-handed input.

Cost: \$99.95. Version 1.0. CE Software, 801 73rd St., Des Moines, IA 50312; (515) 224-1995.

Both *QuickKeys* and *Easy Access* assume you have use of at least one hand, one finger, or are willing to put up with using a mouth stick. But what if you don't have use of your hands at all? Good news. You may be surprised to learn that you don't need your hands to use your Macintosh.

HeadMaster from Personics Corporation is a combination of hardware and software that allows you to carry out all commands and typing without using either the keyboard or the mouse. Unsuccessfully marketed a couple of years ago as a mouse substitute, HeadMaster is now more logically aimed at users who cannot use their hands.

If You Think All Memory Upgrades Are Compatible, Try Using All of These With Your Macintosh



If you're looking for a memory upgrade to increase the power of your Macintosh, there's one thing you don't want to gamble with. Compatibility. Unfortunately, few memory upgrades are compatible with all of the software and hardware on the market. Only Brainstorm, the memory upgrade from Mac Doctor Electronics, offers 100% compatibility. And that's a guarantee.

With Brainstorm, memory hungry programs like HyperCard, PageMaker, Excel, Multi-Finder and 4th Dimension are not only compatible, but will run up to ten times faster with Brainstorm. Please circle 182 on reader service card.

the Brainstorm Performance Software disk. And since Brainstorm is so small, it will accommodate accelerator boards, large screens, SCSI ports and even internal hard drives. In fact, Brainstorm is the *only* memory upgrade that's fully compatible with HyperDrive and with the Radius Full Page Display.

Brainstorm's unique design guarantees full expandability up to 4 megabytes. You increase your memory by simply plugging in low-profile memory modules. So you can be assured your Macintosh will be compatible for years to come. And without worrying about overloading

your system. Brainstorm's special Power-Saver™ and CMOS memory chips reduce the memory power load by over 50%. So your Mac will run cool, without a fan, even at 4 megabytes.

See how Brainstorm can increase your Mac's power at a price you can afford; only \$329 for a Brainstorm with one megabyte for a Mac 512E. Order Brainstorm now by calling (415) 964-2131. And find out what compatibility really means. Mac Doctor Electronics, 1145 Terra Bella Avenue, Mountain View, CA 94043.

AVAILABLE FOR THE MACINTOSH II, SE, PLUS, 512 AND 128

Open Door Policy

With HeadMaster, you move the pointer on the screen by moving your head. To do this, you must wear a special headset that transmits to the computer the rotation and angle of your head movements. A "puff" switch is attached to the headset and acts as the mouse button. A quick breath into the tube equals a click. A drag is accomplished by closing off the tube with your mouth.

Coupled with this unique hardware is software that allows users to type all the keys (including Command, Option, Tab and so on) of the standard keyboards (but not the newer ones). The software is a desk accessory called *ScreenTyper* that puts up a 1-inch window that displays a two-line keyboard in any program that supports desk accessories.

You move your head to point to the letter or key you want to type, puff to click, then move your head to point to the next one. Although typing this way is at first awkward, Personics claims some users can handle up to 20 wpm.

The main drawback to this system is the unreliability of mimicking keyboard input in the wide variety of programs available. Personics says the software can be made to work reliably with the standard Apple software (*MacWrite*, *MacPaint*, *MacDraw* and *MacTerminal*), but venturing too far beyond that can lead to problems. Even so, being able to use *MacWrite* alone could make a huge difference in a person's life. For the seriously immobilized computer user, this is the only game in town for the Macintosh and well worth a look.

Cost: \$995 (plus \$99 for an adapter for SE or II mouse port; or send in your mouse to have it modified to save the extra \$99). Personics Corporation, 2352 Main St., Concord, MA 01742; (617) 897-1575.

SIGHT UNSEEN

Being able to input is only half the battle for some disabled computer users; for many, the characters are too small for them to make them out.

Users of the Radius Full Page Display monitor are familiar with Andy Hertzfeld's clever enhancement of the menu bar and pointer, roughly doubling their size. (Floating around in the bulletin boards is a Hertzfeld program that doubles the arrow pointer only.) For some marginally sighted users, this beefing up of the menus and pointer may be enough to let them get

along, assuming they want to shell out big bucks on a monitor.

From big bucks to 8 bucks: There is a shareware product called *Big Menu* that enlarges the menu bar (and its pull-down menus) to either 14- or 16-point type. Installing *Big Menu* usually results in larger print in dialog boxes and window titles, too. The pointer, however, stays its normal size. For users who do not need all parts of the screen enlarged, this inexpensive program (which works as an INIT resource) might be the ticket (see Fig-

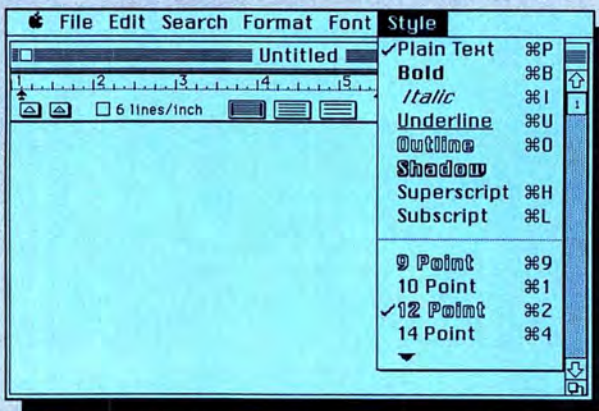
ures 5 and 6). *Big Menu* is available from users' groups or bulletin boards.

Cost: \$8. Mark 3, Andrew Welch, 29 Grey Rocks Rd., Wilton, CT 06897.

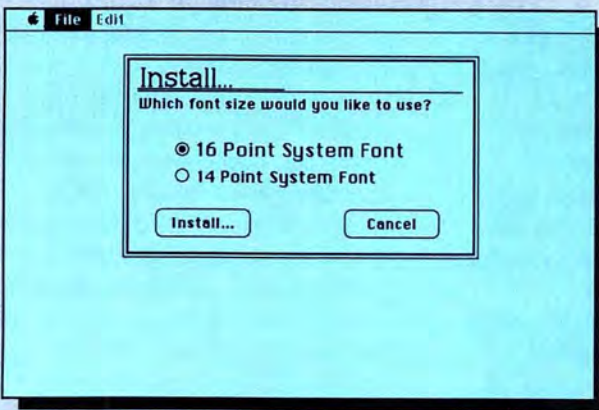
Preeminent among the programs that enlarge the screen display is the appropriately named *inLARGE*. This program is designed exclusively for the visually impaired user, and as such has a wealth of well thought out features. For example, you can magnify the entire screen or just a part of it from two to sixteen times normal. You can invert the screen display (white-



In addition to the HeadMaster headset, you get a desk accessory that displays a diminutive keyboard on the screen. You point and click (with the headset) to type. Note that the arrangement of the letters is more logical than the standard qwerty keyboard: the most commonly used letters are clustered around the space bar.



Once you install *Big Menu*, the menu bar, menu items, window titles and even some dialog boxes are enlarged to 14- or 16-point Chicago. This beefed-up type can cause havoc in some dialog boxes, where there may not be enough room to display the whole contents anymore.



The installation dialog box of *Big Menu*. *Big Menu* actually installs two jumbo sizes of Chicago into your System file, which you can then select and use just as you would any other font size in any other application.

on-black instead of normal black-on-white). You can resize the vertical magnification independent of the horizontal to reshape the letters for maximum readability. And you can set the screen to scan automatically at a desired speed across the screen, letting the user comfortably read or view the image without having to keep moving the mouse. The makers of *inLARGE* have paid attention to details, too. The commands are not multiple keystrokes (even though Sticky Keys does work with it); you press the Option key,

release it and then press the action key. Another nice touch is that the manual is printed in large, 24-point type. Highly recommended.

Cost: \$95. Version 1.1. Berkeley System Design, 1708 Shattuck Ave., Berkeley, CA 94709; (415) 540-5536.

Its sister product, *Stepping Out*, also enlarges the screen, but does not affect the size of the pointer. It requires the Command and the Option key to be pressed simultaneously and does not offer some of the nice features of *inLARGE*.

Cost: \$95. Version 1.1p. Berkeley System Design, 1708 Shattuck Ave., Berkeley, CA 94709; (415) 540-5536.

OUTPUT OPTIONS

A little-known feature of *MacWrite* 4.6 (the newest version) can also be used to good advantage for the partially sighted. In this case, the goal is to easily produce large-print (usually defined as 18-point and up) documents. To actually type in 18-point letters is fairly frustrating since you end up seeing very little of what you're doing on screen. As most Mac users realize, however, the Page Setup dialog box for the current LaserWriter driver lets you enlarge (or reduce) the document at printing time (enlargement can go up to 400%; the ImageWriter can reduce by 50% but cannot enlarge).

What's great about *MacWrite* 4.6 is that after you set the Page Setup to an enlargement figure, *MacWrite* automatically adjusts the right margin so that you have an on-screen idea of where the line breaks will be at your enlargement factor. Even *Word* 3.01, though it's fairly dripping with features, isn't smart enough to do this.

Another LaserWriter printing option through the Page Setup dialog box is to print inverted, white-on-black instead of the normal black-on-white. Although this will use up toner faster than normal, it makes printed output more legible to users with light-sensitive eyes.

WHAT BEEP?

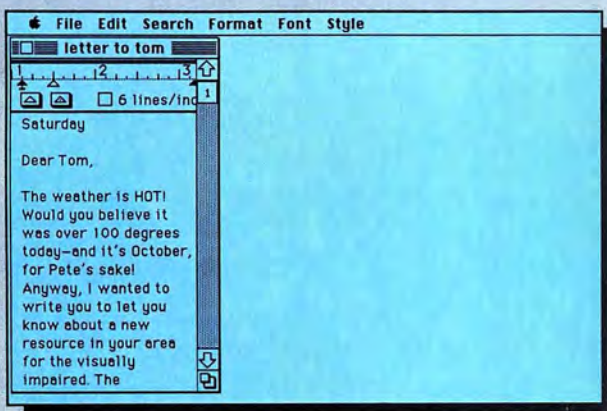
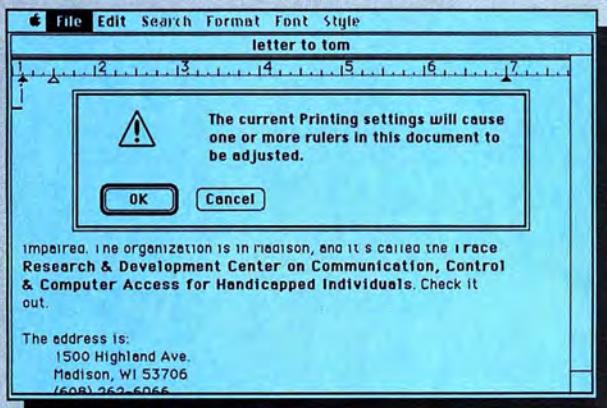
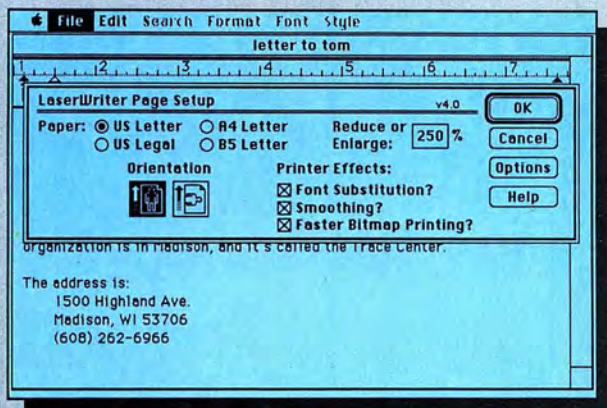
Deafness might not seem to present too many barriers for computer use, but one area that does present itself is the ubiquitous system beep that faithfully alerts users throughout a work session. Did you know you could substitute a visual beep for an audible one? Just set the speaker volume to 0 in the *Control Panel*. Now whenever a beep should occur, the menu bar will flash instead.

There's a lot more that could be said about these and other products. For more information, call any of the above companies or any of the organizations in the Resources sidebar. The main thing to remember is that you should never assume it can't be done. Word processors can talk to you; printers can print in Braille. Keep looking and fighting for that bit of software or hardware that will let you proudly proclaim that the Macintosh is indeed the computer for all of us.

If large-print output is your goal, you can type at normal size and then have the LaserWriter enlarge your document.

Having set the enlargement in the Page Setup box, you are greeted with this dialog box in *MacWrite* 4.6. Canceling returns the enlargement setting to 100%.

MacWrite then adjusts your rulers to show you where the line breaks and page breaks will occur in your enlarged printed document.





Picking A Compiler

THE TYPICAL MACINTOSH ENTHUSIAST, when asked what he or she likes the least about the Mac, will stutter a few moments and then mumble the phrase "hard to program" before turning back to the machine to show you the new dingbat in the Mobile font. Let's be truthful: programming the Macintosh has often been described as a fate worse than a double root canal without anesthesia. From its original release, the Mac has meant simplicity for the end user on a scale that no other machine ever dreamed of. But to achieve this, much more time must be spent learning how to actually write the applications.

Let's say you have an idea for the perfect Mac program. Something you feel will not only justify the expense of your machine, but will actually make you a legend in your own time — a sort of cross between Andy Hertzfeld and Bill Atkinson. You chart the program out in flowchart design, you spec out the Mac interface details and generally express just how you want the program to look to the end user. Fine. Now comes the first hurdle, and it's a biggie. You must choose a programming language. Sure, you'd like to do it in C,

**The Mac programming
jungle is still out there,
in spite of HyperTalk.
We provide a guide for
your first expedition.**

but this vendor doesn't support all of the Toolbox, that one has a licensing restriction that would choke a horse and the other one has a user interface that reminds you of UNIX, something you either hate or never got around to learning.

So you try to pick another language. More hassles, more trade-offs. Do you learn a new language to avoid licensing problems, or do you finally decide to break down and learn assembler? Then there's the next hurdle, and it's also another biggie. How do you manage the process of building the application so that you don't mess yourself up accidentally?

Most of the languages available for

machines today are either interpreted or compiled. Interpreted means that the language is always re-examined and the program re-built every time you launch the document that contains the source code of your application (examples are Microsoft's *Basic Interpreter*, *MacForth* and *V.I.P.*). Compiled means the source is converted into an object file or an actual standalone application that can be used without needing the language processor on hand to run it. Interpreted languages have the advantage of reducing development time, because the process of entering the language, modifying the source and rerunning the tests can be carried out normally within the language application itself. Compilers require a minimum two-step process of source translation and program linkage to produce the application, and you usually have to exit to the *Finder* to perform the test run. Compilers excel in the areas of execution speed (fastest is best) and application size (smallest is best). Compilers are normally built to conserve, wherever possible, the actual amount of code generated (a process called optimization), which increases the speed at which the program will run and re-

BY MARK UNDERWOOD

Picking A Compiler

duces the amount of memory required. Also (and not a small consideration, unfortunately), someone is less likely to steal your brilliant ideas and code when it's in a compiled format.

Okay. So you've reviewed the reviews, solicited a few opinions and perhaps pulled out your old college or high school Pascal textbook. Don't rush off to call your friendly mail order house or dealer, though. You still have to consider the development environments. These come in many forms, and the way a language is presented to you for use often says a lot about what type of application you can make with it.

For example, let's examine *Microsoft BASIC* (I have version 3.0, for those of you who are taking notes). When you buy *MS BASIC*, you actually have both a compiler and an interpreter to choose from. (I'll talk about the interpreter later on.) In the package, you get two disks, along with a pretty comprehensive manual. On the disks are two versions of the interpreter: one for binary (floating point) math and the other for decimal (integer) math. So now you need to decide which one should be used in order to give you the most precision for the particular application (remembering that the binary will yield better numbers, but the decimal will be faster).

When you open either one, you're presented with a series of menus and windows. If you peruse the manual, you can find out what most of these mean (but there's no on-line help). Of primary interest will be the sequence during which your source is converted to a running program. First, you must bring up a source listing window and type the source lines in. No checking is performed as you type — you must enter all or at least enough to get you started. Then, select the RUN option and stand back. The output window is where your results will be shown, and there's a Command window to enter the proper commands in case you goof. The source is checked as it runs, since this is an interpreter. Some slight advance checking is done in the case of statement labels and do loops, but overall, the program cannot predict



If a vendor can't get their act together and produce the whole bag of tricks a language is supposed to have, then they haven't done their homework.

where a possible error is until it hits one. Then you must re-activate the listing window, correct the source and try again.

I chose BASIC as our first example, because almost everyone knows it, and there are plenty of great books to refer to if you don't. But there is a problem with *MS BASIC* that affects both the neophyte and the experienced hacker: *MS BASIC* allows two distinct syntaxes that do not co-exist: line numbers and character labels. If you use character labels, you cannot use line numbers. If you use line numbers and go to's, you cannot use character labels. Pretty confusing, isn't it?

Now, on to the Mac interfacing concerns. Some of the more commonly used Toolbox routines are actually implemented as reserved keywords in *MS BASIC*. This is nice, since to access the Toolbox is sometimes very difficult for a lot of high level languages (it's no easy feat in assembler, either). Just set up the arguments, make sure they're declared right and invoke the call. Simple, right? Well, for any of the other hundreds of Toolbox routines that aren't

handled this way, you have to do something else entirely — and some routines are not available at all!

Sure, you can always carefully follow the documentation on how to access assembler from *MS BASIC*, and patch the leak in the programming environment with that. But you'll be doing something you shouldn't have had to do in the first place: you have had to step outside the development environment, costing you lots of time to correct your code.

So suppose you get around the leaks with assembler for those weird SANE routines you wanted to use, and you get the thing to run. Now, what about mass-producing the baby? Well, you have several options with *MS BASIC*, not any of them perfect. You could just distribute all the source as public domain software — no hassles, no commitments, no screaming users looking for support. And no profits, either. Furthermore, you limit your buyers to those who possess *MS BASIC* (and an assembler, if you used that to stop your leak) as well as those who are able to follow your instructions on how to recreate your efforts at getting the application built. Scratch that one as too risky (most do). Or, you could use the provided runtime "kernels" of the interpreter accompanying the *MS BASIC* package, which allow you to turn the source (saved as compressed format) into a sealed application, but not a standalone. The kernel must be on every disk you give out, or, again, the user must be responsible for providing it. Luckily, Microsoft did tell you that you could give the kernel away with your efforts, so this one's possible. Still, you have to give them credit in lots of places, and you may have problems with future versions of the interpreter or the kernel and your source.

This is a pretty common example of what potential developers have to face, it turns out. Most of the programming languages for the Mac just don't define the development environment broadly enough to contain everything you need to make a totally sealed, totally standalone, no-hands-held Macintosh application. Let's see how well some of the

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Bob Perez, Business Evangelist, Apple Computer, Inc.

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Chief Sysop: MAUG

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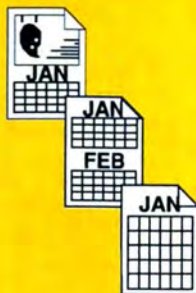
Assign keys for all sorts of commonly used commands: opening programs, repetitive text, selecting typefaces, opening desk accessories and more. Your are unlimited in what QuicKeys can do for you. It's so easy to use, you'll want to use it with everything.

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- Nibble Mac, October 1987



"Every year I have the same problem: finding the ideal calendar... In answer to this universal dilemma CE Software has published CalendarMaker." MacWorld, March 1987

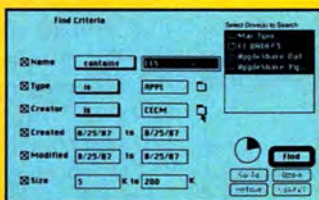
4-1/2 Mouse rating. MacUser, December 1986

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Picking A Compiler

more popular language packages available for the Mac help you do just that.

First, the language itself. It must be a full set, and ANSI standard (if there is one for the language) is preferable. This should ensure that future compiler versions from the same vendor will have to comply with the same set of syntax rules that you based your code on when you started. A full language set is obviously much more useful than a sub-set, or a smaller list of language features.

Beware of the "partial" products and refuse to buy them. If a vendor can't get their act together and produce the whole bag of tricks a language is supposed to have, then they haven't done their homework. ANSI standards exist for most of the main

higher level languages, although ones for BASIC and Forth are currently not established. If ANSI standards or a full/partial language status is not available, look for documented descriptions of the syntax and compare it with a good book on the language.

Next. Get ready for this next phrase. *It must access the Macintosh Toolbox.* Sounds pretty strange, but there are a few languages for the Mac available that actually do not provide this. (Why are they still around? Who is silly enough to buy them?) Do not, repeat, do not buy a product that does not provide some kind of Toolbox access, even if your code does not need any Toolbox calls. Why? Well, if they don't give you access to the Toolbox, they probably

won't support the new Macs and their system software, either. So, check it out thoroughly before buying. Implied by the above, but somewhat open to discussion: it must have easy access to the Toolbox. If the language requires you to stand on your head and chant in Tibetan while twirling a prayer wheel before you can open a window, forget it — it's wasting your time.

Third, normal use of the product should conform to the established Macintosh user interface as specified by Apple. What does this mean? Well, for starters, you should be able to get source from an external program (be it word processor, terminal download or Clipboard) into the source processor of the product. The ways I've seen to accomplish this feature are sometimes strange (an *Editor* DA, for example), but as long as they fill the bill, okay. Next, you shouldn't have to learn a new set of editing/file handling commands to handle the source. C'mon, guys! Cut, Copy and Paste aren't too hard to implement, if you get to the point of opening windows. Yet I've seen cases where even this was not possible in what passed for a source editor in some products. The usual expected Mac features such as DAs, multiple fonts, window handling and so on should be there, because, again, you will waste time if they aren't. You should have a menu bar with the major commands, and the windows should be resizable to allow for larger displays. (Note: If you can't get used to the Mac interface when using a product, the application you're writing won't be even worth making.) Things like *Switcher* compatibility and multiple windowing are also easy to handle and pretty useful, so they should be allowed for.

Fourth, the product should be able to create a standalone application as the result of processing the source. What does standalone mean? Why is it important? Well, if you didn't understand enough of the *MS BASIC* example to realize that, you probably don't care. It is important for the most basic reason of all: money. If your application does not require portions of any others to lend you a hand (I don't count having the most

Part 1—The Essentials

Product Name	Full Language	Toolbox Access	Mac Interface	Standalone Generation
PortaAPL (i)	5	3	3	0
MacAsm 1.1	5	5	1	4
MPW Assembler	5+	5	5	5
MDS Assembler†	5	5	4	5
MS Basic 3.0 (i)	5-	3	3	3
TrueBASIC 1.2 (i)	5+	3	4	3
Softworks Basic 1.0	4	2	2	3
Consulair C	5	4	4	5
Lightspeed C	5	5	5	5
Aztec C	5	5	1	4
MPW C	5	5	5	5
MacForth 2.1 (i)	5*	5#	2	4
MS Fortran 2.2	5+	4	3	4
ExperLISP (i)	4+	3	2	4
MS Logo (i)	5	3	4	0
ExperLogo (i)	5+	1	3	0
Neon 1.5 (i)	5*††	5#	3	4
Mac Pascal 2.0 (i)	5	4	4	3
MPW Pascal	5	5	5	5
Turbo Pascal	5	3	4	3
Lightspeed Pascal	5	5	5	5
TML Pascal	5	4	4	5
Smalltalk-80 (i)	4††	3	3@	0
VIP 2.2 (i)	--††	4	5	3

Notes:

+ indicates language extensions

- indicates language subsets or inconsistencies

* indicates no standard for language established or proposed

†† product uses object-oriented approach

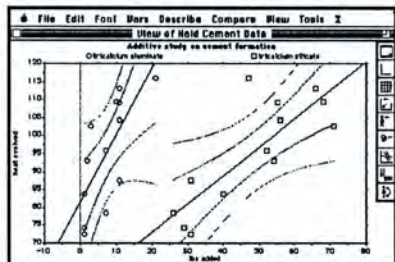
indicates Toolbox access implemented as language syntax

@ Smalltalk-80 interface was the forerunner for the Mac interface, but not the same

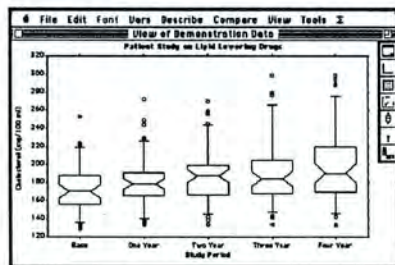
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"Something for nothing is worth just about that."

By now, there are probably few in the Macintosh community who have not seen or heard about Hypercard. Widely touted by Apple and its many editorial evangelists, it has been hyped as the be-all and end-all of information management systems. Objective reflection suggests this is hardly the case.

The program is widely represented as a Hypertext product – as state of the art information management. But what power-features should a real Hypertext system put at your fingertips? To begin with, you should have *the power* to get from any informational node to any other informational node and back with ease; *the power* to perform complex searches with multiple words or phrases; *the power* to locate your position in the informational network at a glance.

At BrainPower, our business is bringing productivity power to adults. We regard Hypercard as a child's toy. It is, no doubt, a brilliant piece of programming, but that is clearly not the sole criterion you should use when purchasing software. Yes, I said *purchasing*. The "free lunch" offered in the Cupertino orchard is not quite free. After all, the programmer got paid; the ad agency gets paid; the support staff gets paid; the disks and documentation cost money- these and all other associated costs get tacked on the price you pay every time you buy an Apple product.

Unfortunately, no one can choose not to purchase Hypercard. But, if you desire the productivity power that a true Hypertext system offers, BrainPower will soon offer an alternative. Next month, in this spot, I will introduce ArchiText™—our answer to Apple's questionable Hypertext claims. ArchiText solves real and specific challenges in the analysis, management, and display of text. Its presentation capacity monitors viewers progress and path through text...but, this is all material for next month's column.

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Picking A Compiler

up-to-date *System/Finder* duo as a penalty — they have to be there), you'll have to give part of the money you should be getting to someone else. The processes for making standalones differ widely, and not all interpreters require kernels, as discussed before.

Now we come to the goodies list. I'll list my choices in the order of greatest to lowest priority, along with the major benefits of each.

Extensions come first. There are just about as many Macintosh hardware set-ups as there are types of Mac users, and so any primo product will have some method of reconfiguring itself to meet the various changes in hardware. For example, scripting allows some products to set down in a file a series of processes or commands to be performed with the product — sort of a batch (Egad! An IBM term!) file. With most of these, you can specify the full HFS path

name, to allow for hard disk or floppy usage. Some products have internal methods for breaking the resultant application into smaller segments of executable code, to allow machines with less memory to run them as well as those with larger memory (the more memory you have, the more segments are resident in memory at a time). These extensions even extend down to the source entry level, with the ability to create edit macros that go beyond the typical Cut, Copy and Paste operations.

Assembler compatibility is another nice feature, even if you don't have to use it to get full control of the Toolbox. Recoding in assembler the portions of the application that take the greatest amount of time to run is a sure way of speeding things up. Some languages even allow you to mix assembler in with the normal language's source.

Printed listings should always be

available, but again, sometimes they're not. If you're like me, sometimes you just have to print out the source and "desk-check" it for the bugs — unless you have an easy-to-use debugger handy (some do). The listing shouldn't be just of the source, either. The compiler or interpreter has to perform memory mapping and cross-referencing, so why not print that information? Some do this as a separate application or script, rather than as an option in the product itself.

Well, what do you think? You always read that programming on the Mac is hard, and now you kinda see why. But there must be some ideal solutions, otherwise there would be no Mac applications, hacker daydreams to the contrary. I'll describe one that has all of the nice features, plus the advantage of being the "choice" of Apple itself: *MPW*.

The *Macintosh Programmer's Workshop* has its roots in the two previous in-house systems: the *Lisa Pascal Workshop* and the *Macintosh Development System* (now called the *Consulair 68000 Development System*). Like those two, the product is not just a compiler, but a whole methodology for a development environment (hereafter, I'm referring to *MPW* version 2.0B). First let's examine our primary concerns.

MPW is not just one language, but three (*C*, *Pascal* and *Assembler*), to allow the user a wide variety of options. All of the languages work the same way, with allowances for the key differences in the syntax themselves. Furthermore, each can call object code made from the others without problems. The languages are invoked from a higher-level application known as the *MPW Shell* (rather than the *Finder*), which we'll discuss in a moment. The three language offerings are full language sets (the 68000 assembler also handles 68010, 68020, 68881, 65881 and even 68030 chip mnemonics), plus they have several extensions, such as the ability to access a separate set of object-oriented routine libraries (*MacApp*) that make developing a Mac application even easier.

Bet you thought the second point about accessing the Toolbox was a

Part 2—The Ditherings

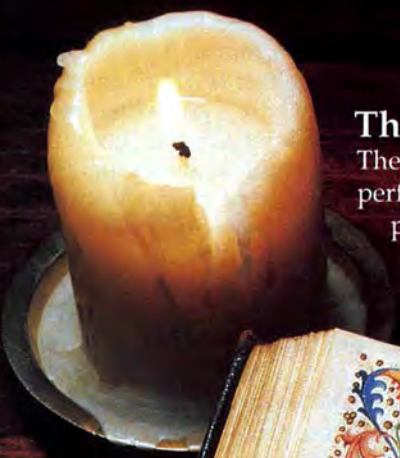
Product Name	Product Extensions	Assembler Access	Printed Listings
PortaAPL (i)	4	0	1
MacAsm 1.1	0	—	1
MPW Assembler	5+	—	5
MDS Assembler†	2	—	3
MS Basic 3.0 (i)	2	3	1
TrueBASIC 1.2 (i)	4	3	1
Softworks Basic 1.0	2	3	1
Consulair C	2	5	3
Lightspeed C	4	5	3
Aztec C	2	5	2
MPW C	5+	5	5
MacForth 2.1 (i)	4	5#	2
MS Fortran 2.2	2	4	2
ExperLISP (i)	2	3	1
MS Logo (i)	0	0	1
ExperLogo (i)	0	0	1
Neon 1.5 (i)	4	5#	2
Mac Pascal 2.0 (i)	1	3#	2
MPW Pascal	5+	5	5
Turbo Pascal	2	3	4
Lightspeed Pascal	2	5	3
TML Pascal	2	5	3
Smalltalk-80 (i)	4	0	3
VIP 2.2 (i)	0	0	2

Notes:

+ indicates MPW environment extensions

indicates instream assembler possible

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Picking A Compiler

gimme, right? Score one for you! *MPW's* languages do so without the cumbersome syntax that others use, and allow for direct Toolbox trap invocation, just in case they decide to change the ROM again (direct trap referencing allows the ROM calls to be accessed as unimplemented instructions of the 680x0 microprocessor itself, one of the reasons the Mac is fast on its feet).

The third concern is a gimme as well (uses the standard Mac interface), but let's note a few more goodies for this one. *MPW* allows multiple source files to be present, and has a "Workspace" window that allows the user to enter and execute *Finder*-level commands *without leaving the product*. Furthermore, text in other windows can be processed *without their being active*.

The business about generating a standalone application is the primary reason *MPW* will be one of the next major Mac development tools. Applications made by *MPW* can have the whole process *automated* with "build" commands that remember what source and resource files depend on what. And if any of them have stepped out of line with respect to the others, the build feature automatically generates the script commands to remake the application. Think about the possibilities there. No application you make will require any fees paid to Apple, unless you use the comprehensive *MacApp* libraries (where there is a small one-time use fee per application, not per copy of the application. *MacApp* is a gem in itself, but you will hear about that quantum leap at some other time).

Now, what about the goodies list?

MPW is, by its nature, a whole bag of extensions. You can perform the work of the *Finder* within the *Shell*. You can invoke and return from any application while still under the *Shell*. You can write custom commands that perform still more tasks, and add these commands to the menu with keyboard shortcuts. You can write "tools" that work under the *Shell* (all of the language processors that work with *MPW* are classified as tools), applications that can work with the *Shell* and inherit spe-

cial functions and features available only with the *Shell*. With *MPW*, you're never at a loss to get what you want done, no matter how esoteric, no matter how lengthy.

Assembler access can be summed up in one word: definitely.

Formatted listings are present, with the degree of verbosity at the user's option. In the case of *MPW Pascal*, there are several *MPW* tools to process the source listing to yield even more information.

[Big Aside Note: If *MPW* sounds too good to be true, I guess I'd better not tell you about the fact that you can redirect inputs and outputs for any command, tool or application. Or that you can write scripts that do search replace operations on patterns of text, not just strings. Or...]

Something on the scale of *MPW* would not have been possible in 1984. It took a growing number of larger scale applications and some faster hardware for it to even be feasible. And it's not something you can boot up and plunge into, like *MS BASIC*. It's not for the "quick and dirty" ten-line program you want in order to add some numbers together. But if you're going to write that super program to help offset your personal portion of the National Debt, you'd probably get it done better with something like *MPW*.

By now, you probably have enough of an idea, given my suggestions and the examples, of what you would and wouldn't like to see in your development tool. So to help you make a decision, I've taken most of the current packages and evaluated them in table form, using the same 1 to 5 grading system *MacUser* uses to rate products. A 1 is worst, and a 5 is best in each category. But don't just take my word for it. Be sure and try those that you think you might like, either by having a friend show you, or your dealer. And for pete's sake, try it on something as close to what you have as possible. ☐

MARK UNDERWOOD STUDIED ANTHROPOLOGY AT THE UNIVERSITY OF KENTUCKY AND NATURALLY ENOUGH BECAME THE MAINFRAME PROGRAMMER HE STILL IS. HE BOUGHT HIS FIRST MAC IN FEBRUARY 1984, ALSO NATURALLY ENOUGH.

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From 'Project Management' by Barry Keating, *Macazine*, June 1986

—"**Carl Sanchez, Chief of Planning for the Launch**

Control Systems Divisions of Martin Marietta . . . As an

individual who must both plan and control projects, he has used both MacProject and MICRO PLANNER PLUS (as well as mainframe versions of project management software such as Artemis). While he 'cut his teeth' on MacProject . . . Sanchez believes MICRO PLANNER PLUS to be a much more powerful tool for practitioners than Macproject. Many people at Martin Marietta use MICRO PLANNER PLUS not only for its power but because its learning curve is quite short . . . (less than a day for some people) . . . MICRO PLANNER PLUS has the best training curve of the project management software."

Another user who has switched from MacProject to MICRO PLANNER PLUS is Mike Krueger of Natural Intelligence . . . Krueger, like Carl Sanchez, started out using MacProject but soon found that his job required the sophistication found in MICRO PLANNER PLUS. MICRO PLANNER PLUS is . . . being used to develop the schedule for producing Natural Intelligence's first product . . . (software with an expert systems or artificial intelligence capability).

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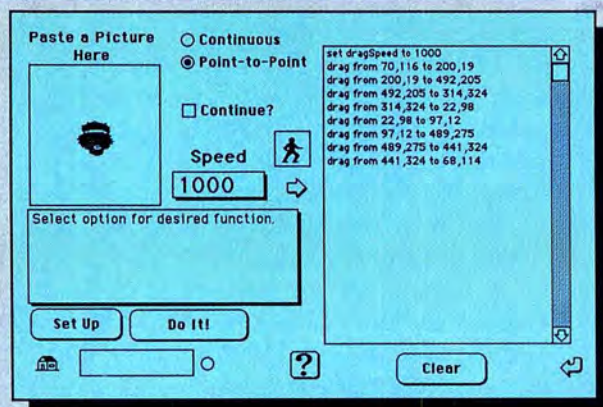
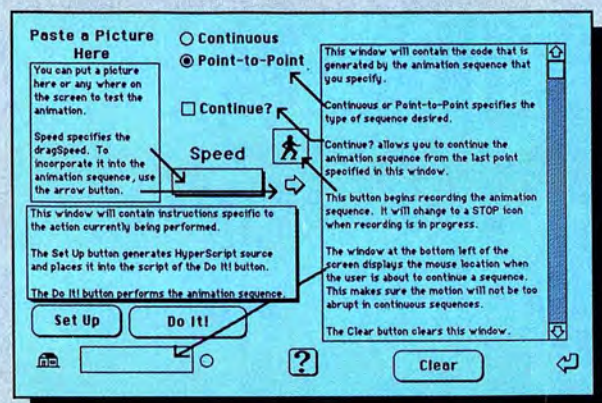
Has anybody figured out what *HyperCard* is yet? An application? System software? A universal data standard that lets you store text, data, graphics, sound and even logical structures in a common format that can be shared by diverse applications? An intuitive programming tool that does to programming languages what calculators did to log tables? A dessert topping?

We're pretty sure it's not that last item, but whatever it is, the stacks keep stacking up. It's still too soon to subject stackware to our grueling reviewing process. So while the stackware authors get their bearings, we'll be giving you a glimpse of what *HyperCard* can do in Flash Cards. We've collected some of our favorites in the following pages. (You can find the shareware and freeware

stacks on bulletin boards and the commercial stacks at your local software emporium.)

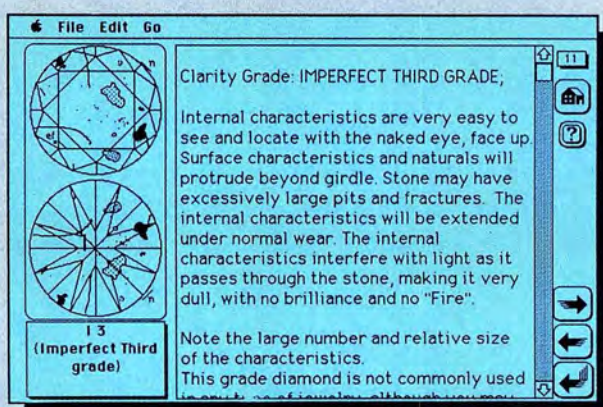
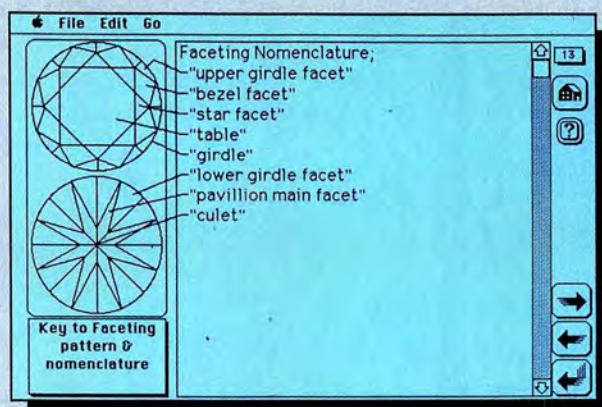
Some of these stacks are neat products; others are neat ideas. We hope they inspire you to create your own *HyperCard* stacks. And we hope you'll send a copy of your stack to Flash Cards, c/o *MacUser*, Suite 250, 110 Marsh Drive, Foster City, CA 94404. ☐

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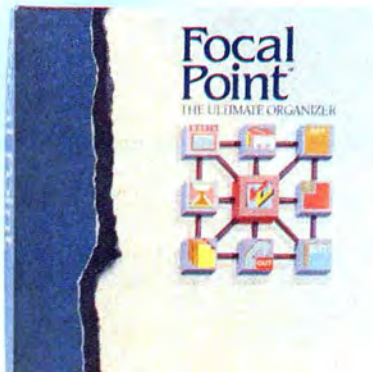
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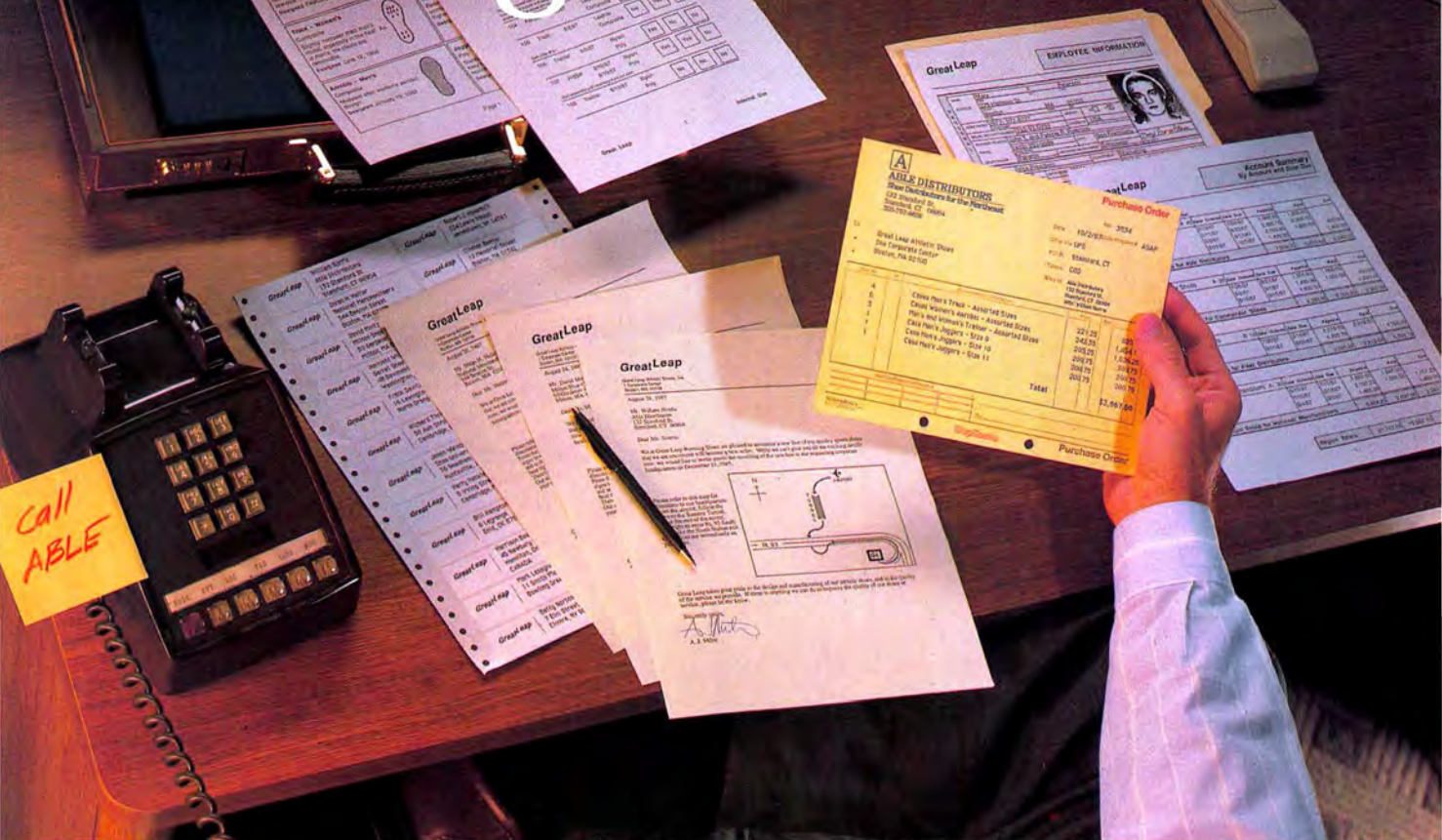
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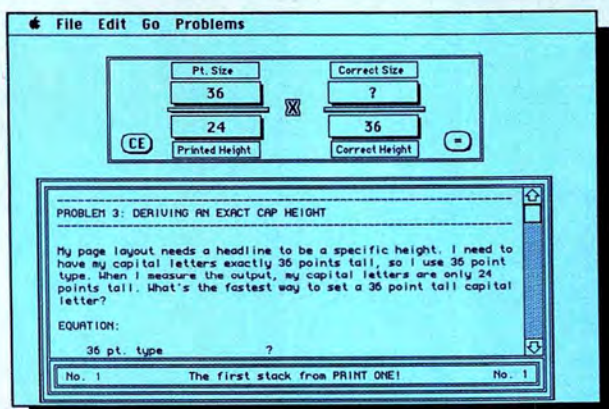


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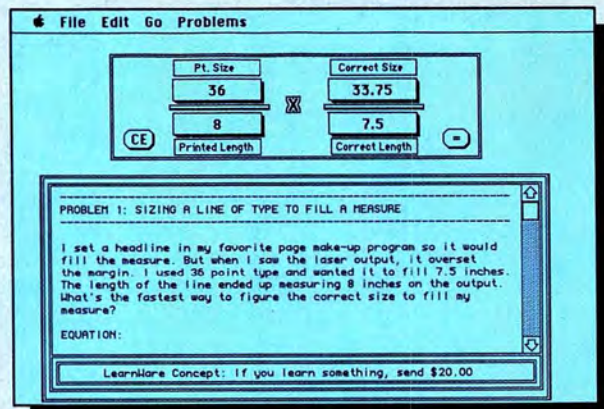
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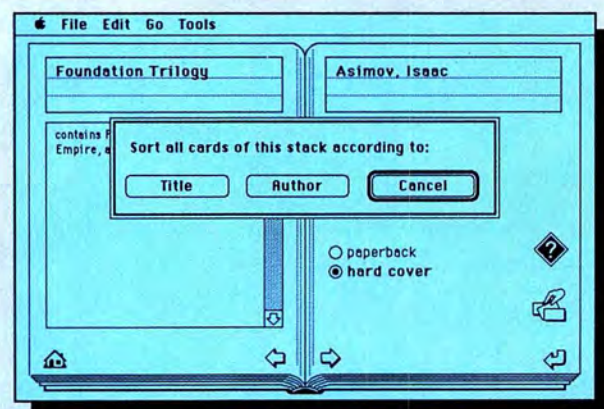
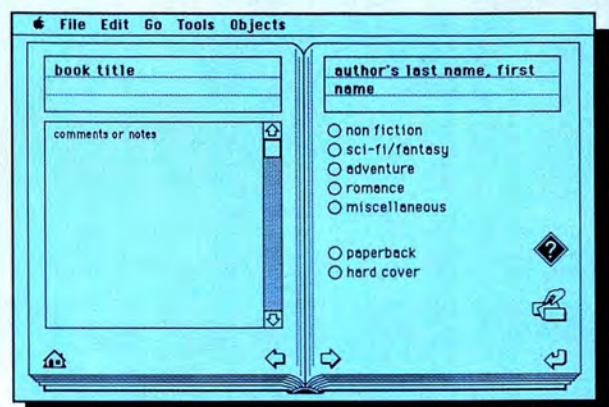


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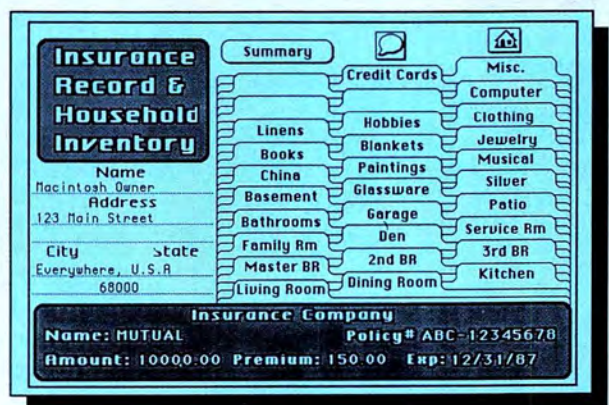
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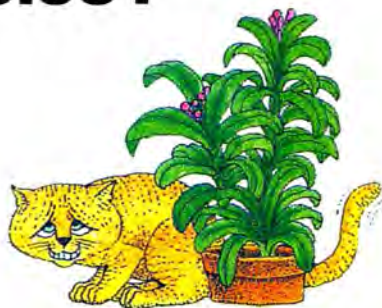
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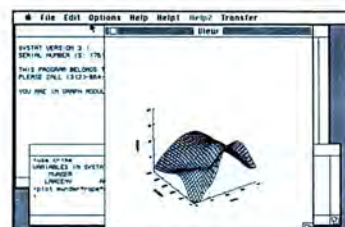
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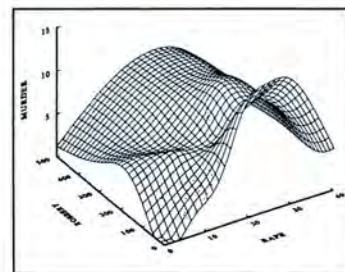
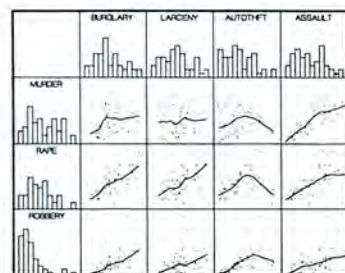
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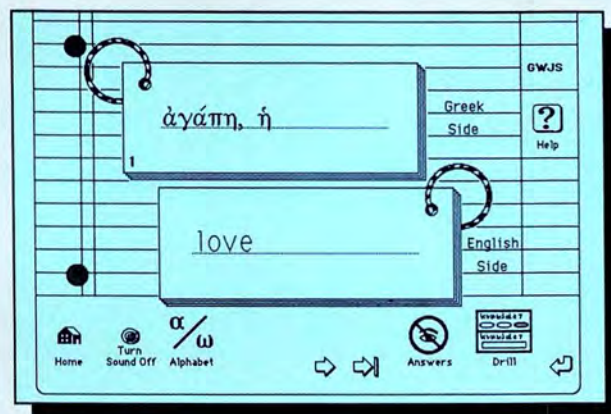
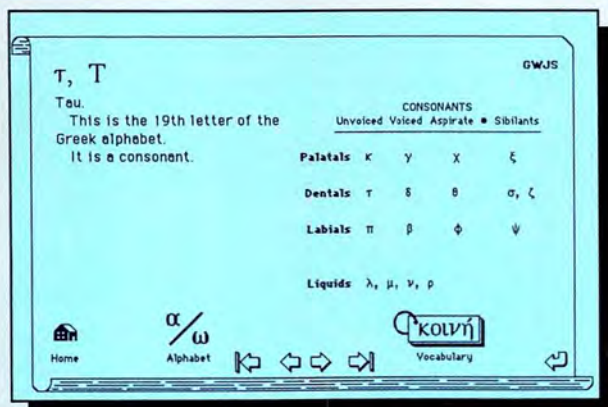


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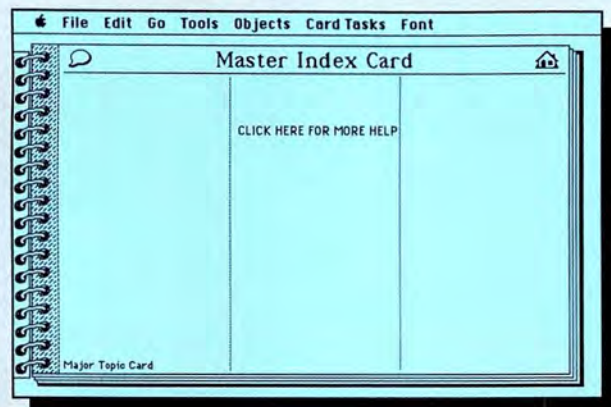
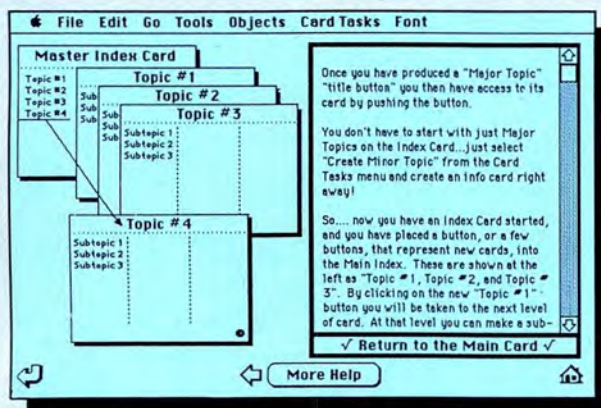
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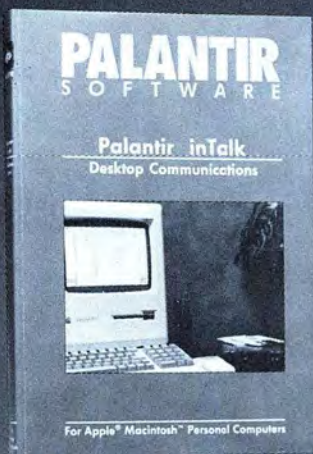
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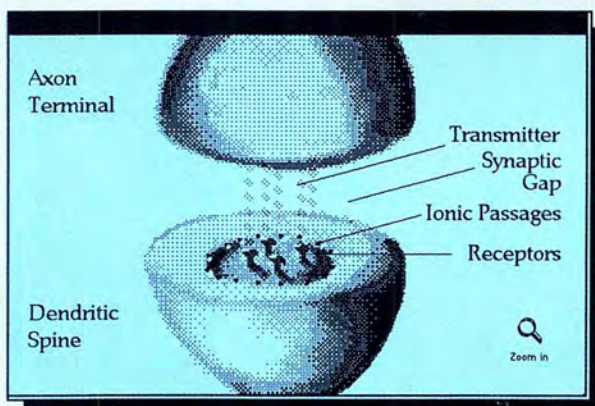
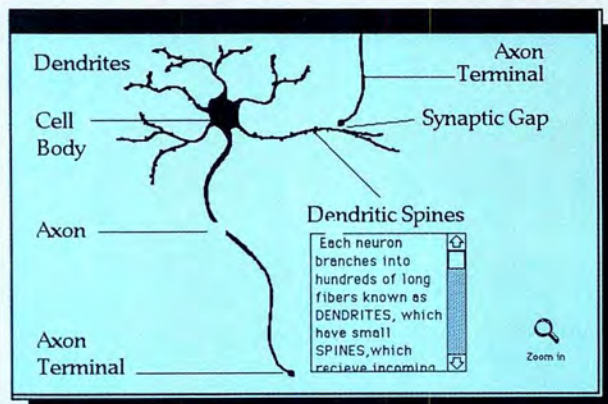
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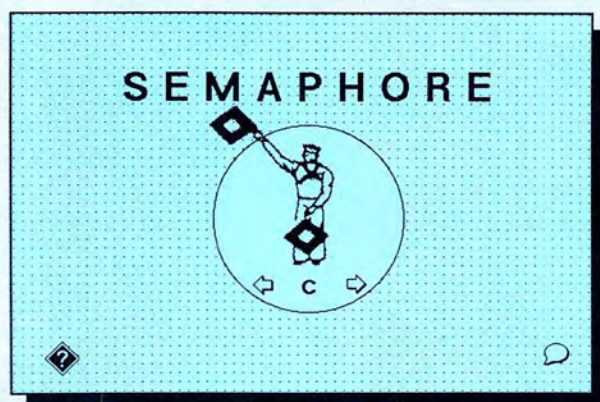
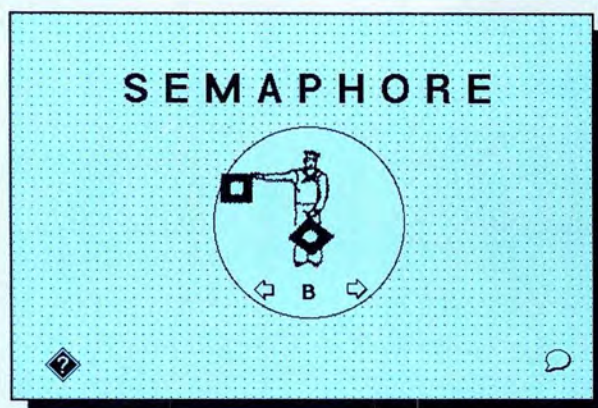
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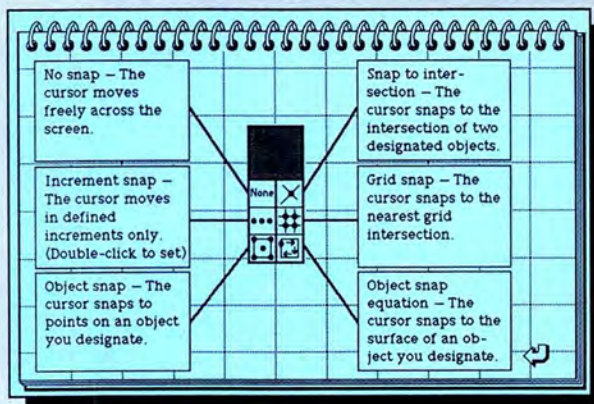
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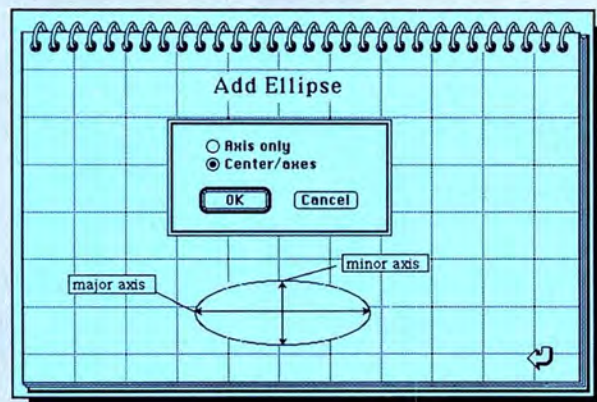
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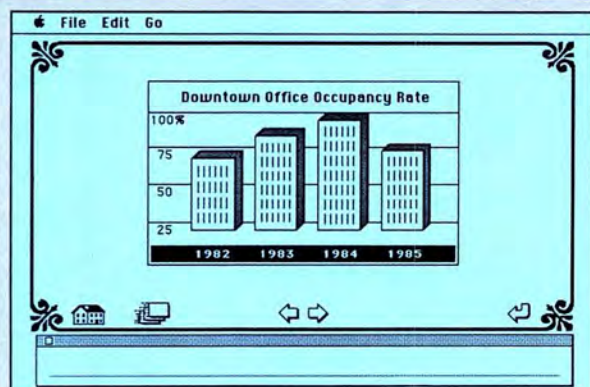
The screenshot displays the VersaCAD software interface. At the top, a menu bar contains the options: File, Edit, Group, Settings, and Inquire. On the left side, there is a vertical toolbar with icons for various drawing tools, including lines, circles, and text. The main workspace is divided into two sections. The top section, labeled 'Construct', contains icons for different construction methods, with 'None' currently selected. The bottom section, labeled 'Constraints', contains icons for applying constraints to the drawing. On the right side, a 'Drawing Window' is open, showing a drawing of a rectangle. Below the rectangle, the dimensions are displayed as [8.1 / 2", 10.1 / 4"]. At the bottom of the interface, a status bar reads 'VersaCAD Help' and 'Click any icon for a description'.

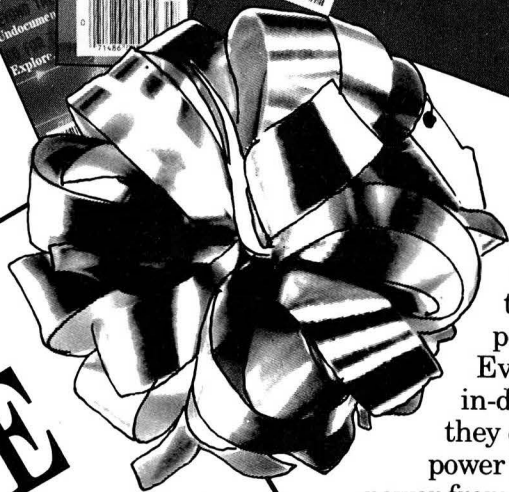


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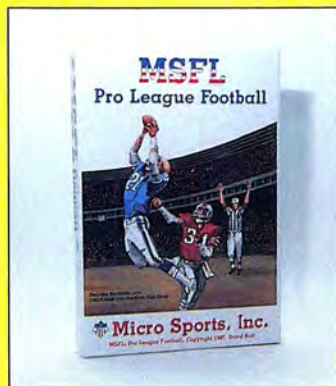
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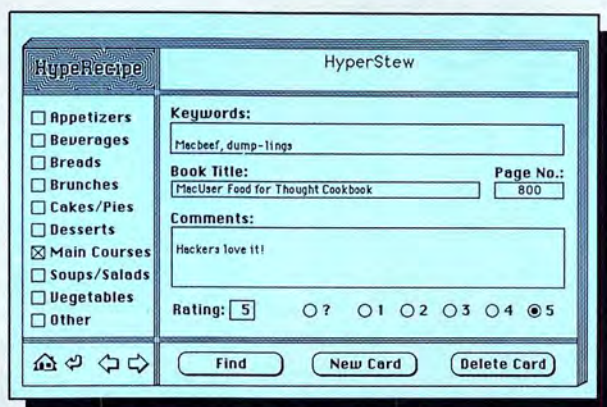
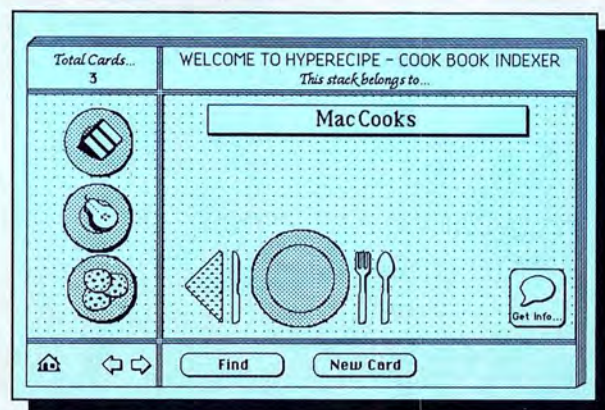
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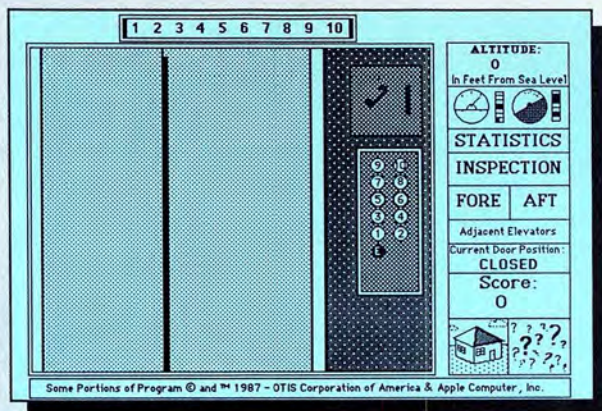
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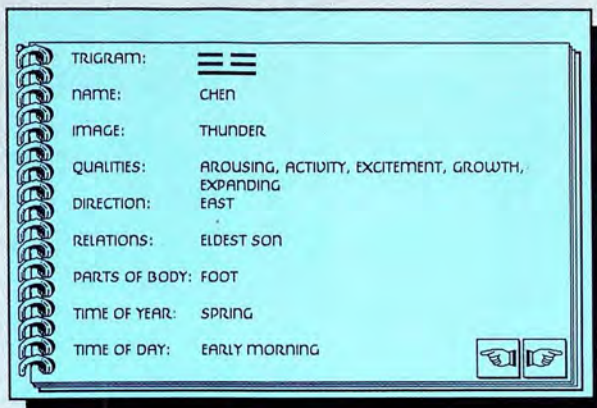
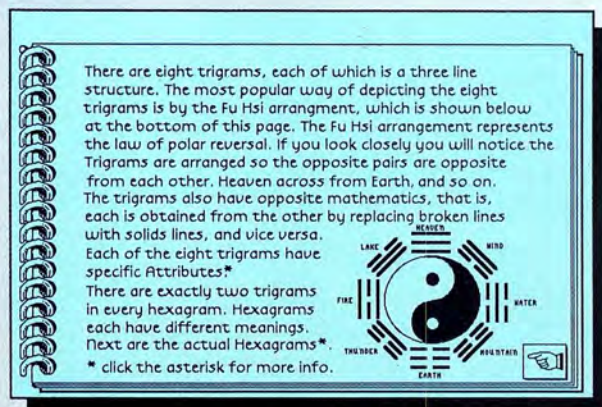
**F L A S H
C A R D S**

What Goes Up ...

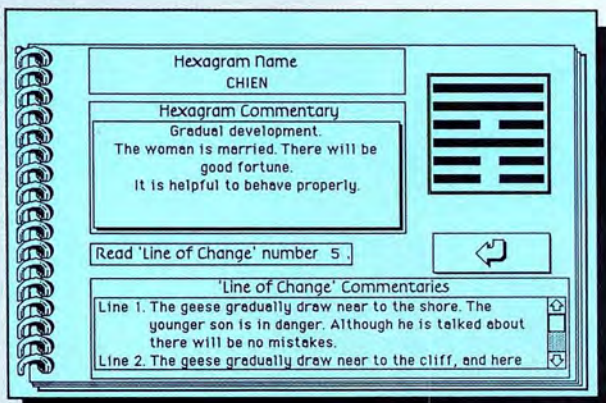
The goal of this game is to reach the 10th floor. This operator could reach only the 10th floor. *Elevator Simulator* is an entertainment stack by Jeffrey Abrams, 1 Mead Way, Bronxville, NY 10708, CompuServe: 71310,2067.



Consult the Ancients

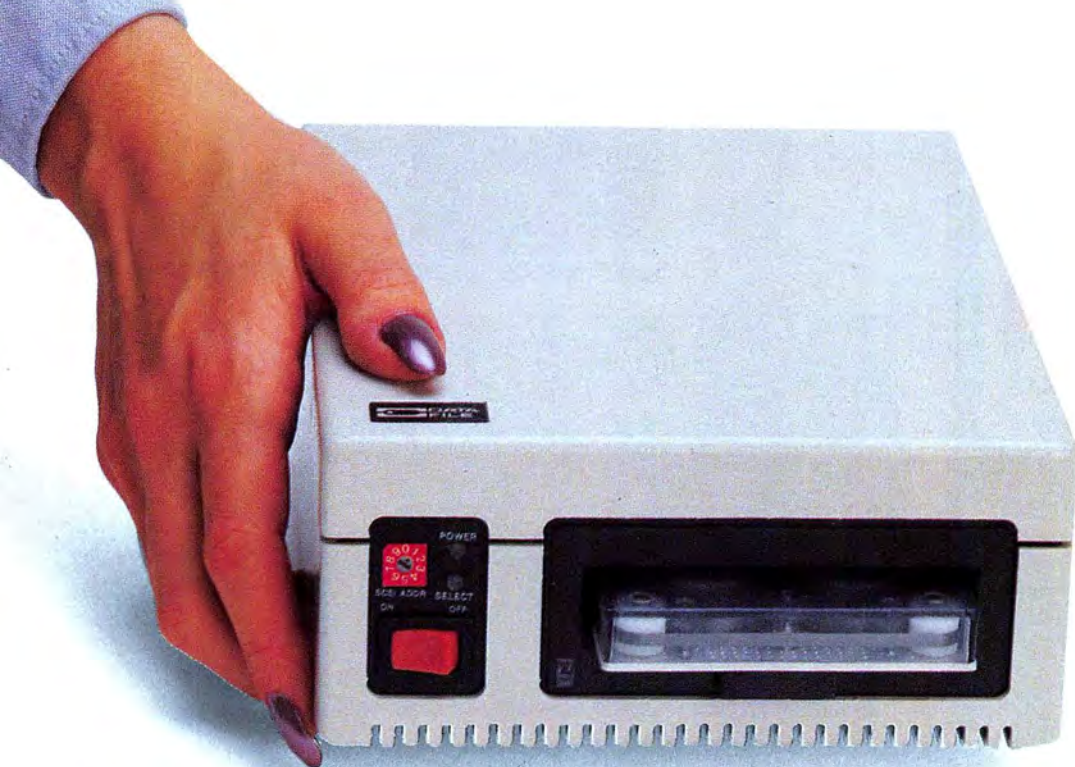


I-Ching or the *Book of Changes*, is an ancient Chinese method of divination. Empty your mind, concentrate on a question you want answered and click OK to throw the yarrow sticks. The interpretation, with references, is given on screen. By Mutant Machinations.



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300G GUIDE Wed, Nov 11,
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1 GUIDED TOUR OF MACAZINE-Drama
Editor, Bob LeVitus leads a grand tour of Hart Graphics, the company that owns and publishes the MACazine. Along the way, he tells you all about MACazine's plans to completely desktop publish its October issue.

2 MARC'S PLAYHOUSE-Comedy
Excerpts from an interview with the outrageous Marc Canter, president of Macromind. Marc speaks out on Mac music, Mac animation, copy protection and a host of other hot topics. Look for the full story in the October issue of MACazine.

3 TEST PATTERN-Off the Air

4 SPOTLIGHT WORDTOOLS-Suspense
Featuring Doug Clapp's WordTools™. A tongue-in-cheek review of a program that tries to help us all become better writers.

5 DATELINE MACINTOSH-News
Date, time and continuing Mac news update.

6 SOLUTIONS FOR ALL OF US-Home Shopping Network
Starring MACazine. How to live life in the fast lane with a subscription to MACazine.

7 TECHNICAL DIFFICULTIES-Standby

8 SCI-FI THEATRE-Chiller
The Attack of the Idea Monster, featuring the Patron Saint of Mac software, Bill Atkinson. An early review of Danny Goodman's 700 page magnum opus, THE COMPLETE HYPERCARD HANDBOOK-due out in the fall from Bantam Press.

9 COMING ATTRACTIONS-Adventure
A sneak preview of the October edition of MACazine. Get it from your newsstand and read it cover-to-cover to discover what MACazine has to offer. Then, when you're ready to subscribe, put the headset of your phone next to the Mac speak and press

Tune in to MACazine's MAC TV station. The nine channels offer drama, comedy, news, coming attractions. Consult their TV Guide for more info. By Mary Jane Mara and Jerry Daniels.

Frame 1: DATELINE MACINTOSH

TIME: 11:15 AM CEN DATE: Wed, Nov 11, 1987

BOSTON, MASSACHUSETTS: Apple Computer unveiled a landmark version of system software for the Macintosh at the MacWorld Expo this week. MultiFinder replaces the traditional Macintosh Finder, and, at first glance, looks much like older, more traditional versions of the Finder. The new software, however, allows the user to launch multiple applications without leaving the famous Mac desktop.

The product--originally codenamed Juggler--began as a system resource, but eventually evolved into a replacement for the Finder. Many in the Mac community had hoped that MultiFinder would be the long-awaited answer to multi-tasking on the Mac. While MultiFinder does have an outstanding spooling feature that sends documents to the printer (where users can specify the order and time for a job to be printed) and leaves the Mac screen immediately free to pursue other tasks.

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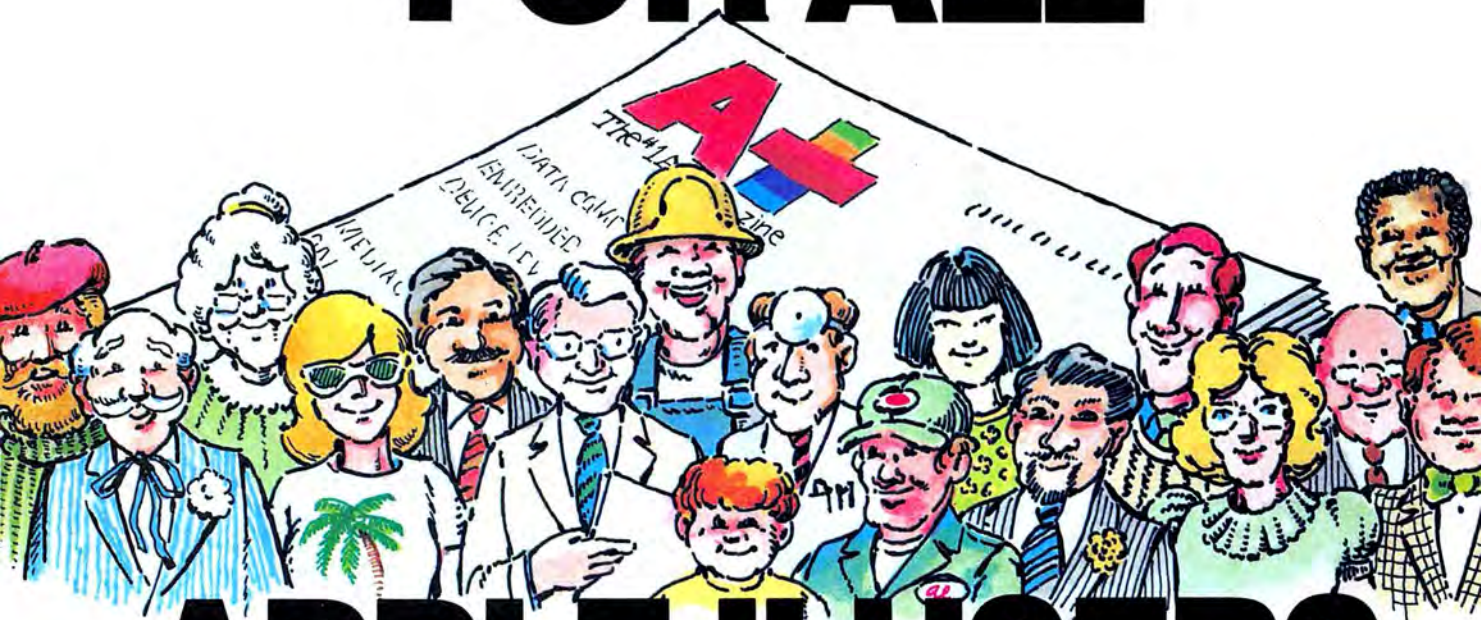
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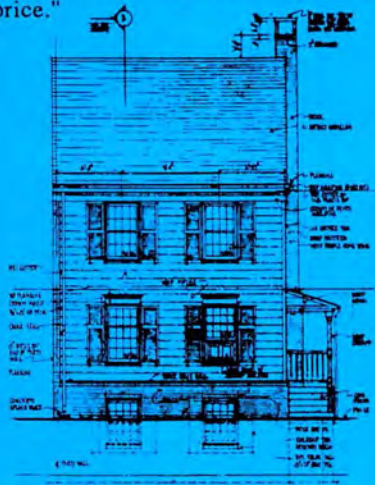
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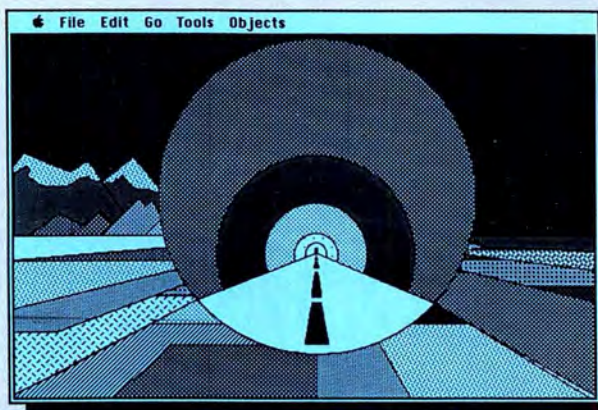
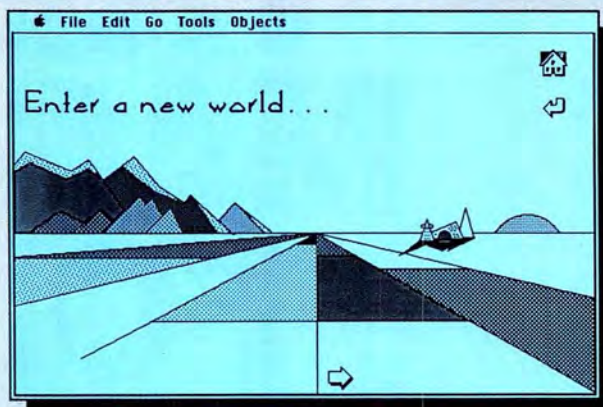
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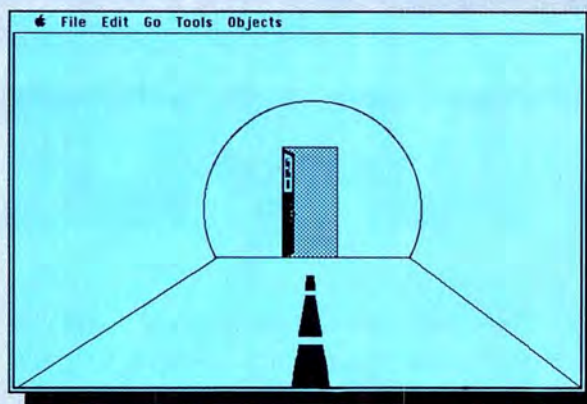
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RAM UPGRADE/MULTIFINDER BREAK-EVEN ANALYSIS STACK*

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MINIFINDERS

Have you often wished for a personal assistant to help in picking software? These MiniFinders may not breathe and move, but they do tell you what products are hot and better, what these products do. Each of these items has been carefully reviewed and selected by the *MacUser* editorial staff. Each has been rated in increments of half mice, from 1 to 5. Ratings are relative within categories, and they can change as categories expand and new products advance the state of the art. You won't see many low ratings or bombs, since we're telling you about the cream of the crop, but we will warn you about the really bad products so that you don't spend your money on them. **Red names indicate this month's additions.** The letters at the end of the entries indicate whether a product is copy protected (CP) or not (NCP). If a product has been reviewed or Quick Clicked in *MacUser*, the date of the review is shown. Next time you have to find products you can count on, count on *MacUser*!

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INTEGRATED SOFTWARE

Crunch is an icon-driven relational spreadsheet that features versatile charting and data base capabilities. Strong financial logic, date and mathematical functions. Spreadsheets can be linked. The manual is clear and concisely written. Macros are not supported. \$195. VisiCorp, 2700 Augustine Dr., Santa Clara, CA 95054. CP (Jan 86)

Excel is THE power spreadsheet. Of the Mac, of the world. Has 256-column by 16,384-row capability. Features include a powerful macro function (with a recorder to make creation simple) and elaborate charting facilities. 512K+ Mac and external drive required. \$395. Microsoft, 16011 NE 36th Way, Redmond, WA 98073-9717. NCP (Prem)

Jazz provides well-integrated modules for word processing, graphs, worksheets, data bases and communications. HotView is best feature. Requires 512K+ and external drive. Version 1A requires 400K drive. \$395. Lotus, 55 Cambridge Parkway, Cambridge, MA 02142. CP (Prem)

Microsoft Works is an integrated application that includes word processing, data base, spreadsheet and telecommunications functions. The telecommunications module includes background up- and downloading. \$295. Microsoft, 16011 NE 36th Way, Redmond, WA 98073-9717. NCP (Oct 86)



Trapeze (version 2.0) is a powerful presentation worksheet that combines mathematical functions and graphic representation. The interface, which consists of an icon bar, can be awkward to use. Mac II and color supported. Data Tailor, 3113 S. University Dr., Fort Worth, TX 76109. NCP (Dec 87)

BUSINESS ACCOUNTING

Accountant, Inc. V2.0 integrates accounts payable, accounts receivable, general ledger and inventory modules. Prints checks, purchase orders, invoices, customized reports. Bare bones accounting system limited in size and scope, but ease of use and integration make it suitable for small businesses. Requires 512K+. \$299. SoftSync, 162 Madison Ave., New York, NY 10016. NCP (Oct 87)

Back to Basics Accounting is a powerful double-entry accounting software package for the small business user with GL, AR and AP modules. Exhaustive manual with numerous examples. Report capabilities are excellent. \$199. Peachtree, 4355 Shackleford Rd., Norcross, GA 30093. NCP (May 87)

BPI General Accounting is an easy to use system. Six journals, AR, AP, Payroll and GL on one disk. Offset amounts automatically post to ledgers. Up to 8000 accounts. Detailed records, wide range of reports. *Switcher* and HFS compatible. \$249. Requires 512K+. BPI Systems, 3001 Bee Cave Rd., Austin, TX 78746. NCP (Aug 86)

CheckMark is a Ledger with five preset journals: Cash Disbursements, Receipts, General, Sales and Purchases. Menus and data entry are very straightforward. Flexible summary reports are built in; customer and vendor info is very minimal. \$295. CheckMark Software, PO Box 860, Fort Collins, CO 80522. CP (Dec 85)

Insight is a high-powered accounting program for the small to medium size business. At present, three modules are available: Accounts Receivable, Payables and General Ledger; others are in the works. Requires 512K and hard disk. \$595. Layered, 85 Merrimac St., Boston, MA 02114. NCP (Dec 86)

Rags to Riches integrated accounting modules (General Ledger and Accounts Receivable) uses Mac interface to the hilt. Information entered in one window automatically transfers. Version 3.0 now provides detailed, flexible report options. Very easy to use, but it can be confusing with several windows on-screen. Requires 512K+ and printer. \$199.95 per module. Chang Labs, 5300 Stevens Creek Blvd., San Jose, CA 95129. NCP (Dec 85)

Rags to Riches Professional Billing tracks and bills professional services. Batches activities for individual timekeepers. Use as standalone, or integrate with *R to R* modules. Requires 512K+, printer. \$399.95. Chang Labs, 5300 Stevens Creek Blvd., San Jose, CA 95129. NCP (Feb 87)

Strictly Business General Ledger features clear, well-outlined set up procedures and operations. Very flexible, up to 99 profit centers with up to 100 departments each; and customized reports. Program print spools. Requires 512K+, printer and external drive. \$395. Future Design, 13681 Williamette Dr., Westminster, CA 92683. NCP (Dec 85)

PERSONAL FINANCE

Dollars & Sense is a bookkeeping program. Easy to use, with a good manual and excellent on-screen help. Will handle up to 120 separate accounts or money categories. Uses standard double-entry accounting techniques. Will work on 128K. \$149.95. Monogram, 8295 S. La Cienega Blvd., Inglewood, CA 90301. CP (Mar 87)

MacInTax is an excellent tool for preparing tax forms. Intuitive, easy to use. Accepts data from leading personal finance programs. Good built-in help. Liberal upgrade policy for current owners. California forms set also available. \$99 federal; \$45 California. SoftView, 4820 Adohr Lane, Suite F, Camarillo, CA 93010. NCP (Mar 87)

MacMoney is a complete and easy to use personal financial system. Intuitive data entry. Integrates with *MacInTax*. Requires 512K+. \$74.95. Survivor Software, 11222 La Cienega Blvd., Inglewood, CA 90304. NCP (May 87)

MINIFINDERS



Market Pro is a comprehensive portfolio management program for the generation of fundamental data as well as technical charts and graphs. Requires 512K+, external drive and Hayes-compatible modem. \$395. Pro Plus Software, 2830 E. Brown Rd., Mesa, AZ 85203. NCP (Nov 86)

DATA BASES

Business Filevision is a masterpiece of Macintosh programming, the only true graphic data base on any micro. Much more powerful than the original, accepts *MacPaint* graphics. \$395. Telos Software, 3420 Ocean Park Blvd., Santa Monica, CA 90405. NCP (Feb 86)

C.A.T. is a dedicated relational data base for managing contacts, activities and time. Difficult to learn, but easy to use. Its rigid structure takes some getting used to, but links between types of data make it easy to keep track of important people and events. \$299.95. Chang Laboratories, 5300 Stevens Creek Blvd., San Jose, CA 95129. NCP (Nov 87)

dBase Mac is a relational DBMS that includes a structured programming language to develop standalone applications. Palette icons as alternatives to menu commands will help novice users. Requires 512K+. \$495. Ashton-Tate, 20101 Hamilton Ave., Torrance, CA 90502-1319. NCP (Feb 88)

Double Helix is an environment to generate custom applications built around a data base-type framework. Contains enhancements to *Helix* 2.0. Includes custom menus, sub form windows, password protection and a universal dump and load parser. Ability to store pictures as data fields. \$495. Odesta, 4084 Commercial Blvd., Northbrook, IL 60062. NCP (Oct 86)

File is a flexible data manager. Creates files for a variety of data, including simple graphics. Files are created in simple row/column format, but reports and forms are easily customized. \$195. Microsoft, 16011 NE 36th Way, Redmond, WA 98073-9717. CP

FileMaker Plus retains features of *FileMaker* and reads *FileMaker* data, also displays up to 8 files, uses "lookup" to retrieve data from other files. Enhanced calculation with many additional functions. Scripts automate a sequence of actions. Requires 512K+. \$295. Nashoba Systems, 175 Sudbury Rd., Concord, MA 01742. NCP (Nov 86)

4th Dimension is a powerful relational data base that creates standalone applications. Features a Pascal-like programming language environment. Somewhat slow. \$695. Acius, 20300 Stevens Creek Blvd., Cupertino, CA 95014. NCP (Nov 87)

MacDewey! (version 2.5) is a cataloging program featuring the Dewey Decimal Classification system. Uses predefined fill-in-the-blank fields to create catalog cards. Suffers from bugs in search routines and the inability to distinguish first names. Not for professionals; home libraries might benefit. \$79.95. Mousetrap Software, 336 Coleman Dr., Monroeville, PA 15146. NCP (Nov 87)

MacRelax is a relational list manager that stores data in a column format. Files can be related by sharing a common field. Flexible design for reports. Screen display is sometimes strange. Easy to use but not obvious to learn. \$59.95. 512K required. Arrays, 6711 Valjean Ave., Van Nuys, CA 91406. NCP (Jan 87)

Omnis 3 is a power data base, featuring concurrent multiple file management. Can handle 24 files, 12 at a time, and is fully relational. Create custom environments including user-defined menus, commands and dialogs. \$495. Blyth, 2929 Campus Dr., San Mateo, CA 94403. NCP (Mar 86)

OverVUE is a power-packed relational data base that has extensive sorting, summarizing and report generation capacity. Has macros and a charting function. Good manual. It can exchange files with a very wide variety of other programs (including IBM software). \$295. ProVUE, 222 22nd St., Huntington Beach, CA 92648. NCP (Nov 85)

Professional Bibliographic System is a specialized data base for storing and retrieving bibliographies. Redesigned templates (20) simplify creation. Version 2.6 offers improved speed, flexible formatting. \$295. Personal Bibliographic Software, Box 4250, Ann Arbor, MI 48106. CP (Feb 87)

Record Holder is a flexible, easy-to-use form-oriented data manager. Setup is particularly simple and the search features are powerful. \$69.95. Software Discoveries, 137 Krawski Dr., South Windsor, CT 06074 NCP (Apr 86)

Reflex For The Mac is a flexible relational data base. Excellent report generator gives full control over appearance, style of output. Requires 512K+, second drive or hard disk. \$99.95. Borland International, 4585 Scotts Valley Dr., Scotts Valley, CA 95066. NCP (Dec 86)

Reflex Plus is a relational data base with "smart" entry and report design, but no overall programming facility. Simple to set up, yet fast. Graphic capabilities are quite limited. Version 1.0 reviewed. \$279. Borland/Analytica, 4585 Scotts Valley Dr., Scotts Valley, CA 95066-9987. NCP (Feb 88)

Writer's Workshop maintains orderly records for writers. It can track manuscripts, income and publisher. Based on and includes *Runtime Helix*. \$99.95. Futuresoft System Designs, PO Box 132, New York, NY 10012. NCP (Apr 87)

NUMBER CRUNCHING

DesignScope is a construction kit for digital and analog circuits. Up to 254 components can be utilized in a single circuit, and the equivalent of a dual trace oscilloscope plots output in real-time. Good for testing circuitry without touching a breadboard. \$249.95. BrainPower, 24009 Ventura Blvd., Calabasas, CA 91302. NCP (Nov 86)

MacCalc is a fast, competent, full-featured spreadsheet with impressive built-in functions, font control, on-line help, ability to expand columns and rows and read/write SYLK or WKS files. The worksheet is 125 columns by 999 rows. Cell names, printing power make *MacCalc* a very flexible pure spreadsheet. \$139. Bravo Technologies, c/o DPAS, PO Box T, Gilroy, CA 95021. NCP (Sep 86)

MacSpin is a unique and powerful graphic data analysis program. Handles multivariate data in a highly visual manner. Nothing else like it for any micro. \$199.95. D² Software, PO Box 9546, Austin, TX 78766-9546. CP (Jun 86)

Multiplan, the first Mac product from someone other than Apple, is beginning to show age. Still a very capable basic spreadsheet with simple sorting, 63 columns by 255 rows, many built-in functions, other standard spreadsheet features. \$195. Microsoft, 16011 NE 36th Way, Redmond, WA 98073-9717. CP (Mar 86)

Parameter Manager is a data manager, incorporating integrated scheduling, statistics and graphics. It has solid spreadsheet, calendar and data base functions, and reports can be customized using other software. *Parameter Manager* can also import data from *Excel* or *Lotus 1-2-3*. \$495. SMS, 651 River Oaks Parkway, San Jose, CA 95134. NCP (Jul 87)

StatView 512+ is a very intuitive statistical analysis program with tools needed to understand any set of data. Holds data in a spreadsheet-like form. Full-featured, fast and accurate. Extremely wide range of analyses possible. Requires 512K RAM and 800K of disk space to operate. \$349.95. BrainPower, 24009 Ventura Blvd., Calabasas, CA 91302. NCP (Dec 86)

StatWorks is a general-purpose statistics package that is both powerful and easy to use. Handles all standard tests and procedures. Single variable and multivariate statistics are supported. \$125. Cricket Software, 30 Valley Stream Pkwy., Malvern, PA 19355. NCP (May 86)

GRAPHICS & DESIGN

CalendarMaker creates monthly calendars in a variety of formats. Users can incorporate their art and daily notes. Note files can be imported from a variety of DA calendars and outliners. Shareware and prelicensed versions available. \$30. CE Software, 801 73rd St., Des Moines, IA 50312. NCP (Dec 86)

Canvas is a Draw and Paint program that uses *QuickDraw* as its output language. Full of features, including free rotation and one and two point perspective. Also has graphics macro commands, unusual in a program this inexpensive. \$195. Deneba, 7855 N.W. 12th St., Suite 202, Miami, FL 33126. NCP (Jan 88)

MINIFINDERS



Chart can easily create area, bar, column, line, pie, scatter and combination charts. A total of 42 styles are provided. Limited to 100 data items (64 in a series) on a 128K Mac, approximately twice that on a 512K Mac. \$125. Microsoft, 16011 NE 36th Way, Redmond, WA 98073-9717. CP

ClickArt Special Effects is a *MacPaint* enhancement desk accessory. Allows the user to distort, stretch, rotate and use perspective on *MacPaint* documents. A necessary addition for all serious users of *MacPaint*. \$49.95. T/Maker, 1973 Landings Dr., Mountain View, CA 94043. NCP (Apr 86)

ColorPrint allows you to print *FullPaint*, *MacPaint*, *MacDraw* and *MacDraft* documents in color using the ImageWriter II or ImageWriter I. *Paint* files set up as overlays are read into *ColorPrint*, and the program controls proper positioning registration. \$29.95. I/O Design, PO Box 156, Exton, PA 19241. NCP (Mar 86)

Comic Strip Factory is an assembly program for creating comic strips. Includes a data base of parts for various characters and backgrounds for panels. Good text editing in balloons. Can import and export in *MacPaint* format. \$89.95. Foundation Publishing, 10301 Yellow Circle Dr., Minneapolis, MN 55343. NCP (Dec 87)

Cricket Draw is an object-oriented drawing program that will produce stunning, high-quality output. Designed to print on PostScript-compatible devices, such as the LaserWriter. Making shadows and flowing fountain effects is just a point and click away. \$295. Cricket Software, 30 Valley Stream Pkwy., Malvern, PA 19355. NCP (May 87)

Cricket Graph easily generates 12 graph types. Multiple windows can be displayed. *Graph* prints in up to 8 colors with up to 16 patterns. Self-generating macro formatting. *Switcher*, HFS, LaserWriter and plotter compatible. \$195. Cricket Software, 30 Valley Stream Pkwy., Malvern, PA 19355. NCP (Jun 86)

Easy3D is a three-dimensional, solid modeling masterpiece. Four variable light sources, powerful sculpting tools and an exquisite user interface make this a must-have for graphics enthusiasts. Requires 512K+. \$149. Enabling Technologies, 600 S. Dearborn, Chicago, IL 60605. NCP (May 86)

EZ Draft is a high-level CAD application. Does things usually only found on minicomputer programs. Uses "pop-up" menus to supplement a full set of pull-down menus. Comes with an additional set of printer/plotter/monitor drivers. A real powerhouse. \$1995. \$500 for IEGS module to link to other CAD programs. Bridgeport Machines, 500 Lindley St., Bridgeport, CT 06606. CP (May 87)

FastForms! Construction Kit is both a fast and efficient business forms creator (a drawing program) and a specialized application (and DA) to fill out the data fields in your forms. \$49. Shana, 9704 54th Ave., Edmonton, Alberta. NCP (Nov 87)

Fluent Fonts is a two-disk collection of fonts. Forty-nine different items are included. All install easily in user systems. Most are well executed and some are extraordinarily nice. This is a real bargain for font lovers. \$49.95. CasadyWare, PO Box 223779, Carmel, CA 93922. NCP

Fontastic is the best font editor now available for the Mac. Features a large editing window with a grid to make positioning easy. Select letters to edit by clicking on a matrix of the font. Allows scaling of existing fonts and previewing the various styles. \$49.95. Altsys, PO Box 865410, Plano, TX 75086. NCP (Dec 85)

Fontographer is a complex, but excellent laser font creator. The fonts created have 300 bits per inch resolution. The fonts are actually downloadable PostScript files. \$395. Altsys, PO Box 865410, Plano, TX 75086. CP

FullPaint is an expanded version of *MacPaint*. Features include full-screen drawing, multiple documents opening simultaneously, brush editing, movable tool palettes, special text effects and much more. It fills the gaps left by *MacPaint*. \$99.95. Ann Arbor Softworks, 2393 Teller Rd., Newbury Park, CA 91320. NCP (Jun 86)

GraphicWorks 1.1 is a powerful drawing and painting program that creates high-resolution bit-maps. Easels contain graphics, balloons hold text and both reside on panels. Graphic primitives are now a separate tool. \$99.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60062. NCP (Oct 87)

Graphindex indexes *MacPaint* and *MacDraw* format graphics without removing them from their original documents. Indexed graphics are retrieved via the *Graphindex* DA. Can modify an indexed graphic without affecting the original. Best for bit-mapped (*Paint* format) images but the design is questionable and the execution imperfect. Requires 512K. \$124.95. BrainPower, 24009 Ventura Blvd., Calabasas, CA 91302. NCP (May 87)

GridMaker is a tool for artists who use perspective. The program automatically generates a series of three-dimensional plane sets that can be pasted into *MacDraw*. Sizes and viewing vantage point are easily modified. \$49. FolkStone Design, PO Box 86982, North Vancouver, BC V7L 4P6, Canada. NCP (Nov 86)

Illustrator is a professional-level graphics program. Unique and powerful drafting technique. Program uses templates for precise and detailed art work. Requires 512K+. \$495. Adobe Systems, 1870 Embarcadero Rd., Palo Alto, CA 94303. CP until registered. (Jul 87)

Japanese Clip Art is a two-disk set of extraordinary Japanese clip art. Consists of *MacPaint* documents and separate fonts. Volume I, Heaven, covers mythological subjects; Volume II, Earth, has secular subject matters. \$79.95 each volume; \$149.95 set. Qualitas Trading, 6907 Norfolk Rd., Berkeley, CA 94705. NCP (Apr 87)

LaserFonts are new fonts for the LaserWriter. Users download them to their machines. Very high quality and very simple to use. *Williamette* looks like Avant Garde. *MicroFonts* provides tiny, expanded and condensed versions of the LaserWriter's own fonts. \$34.95 to \$44.95 each. Century Software, 2483 Hearst, #175, Berkeley, CA 94709. NCP

LaserPaint needs a major fix and quick. Its clumsy interface makes it a slow program. There's good laser output, if you persevere through the creation of a document. The support is scads better than the documentation, which is lousy. Version 1.1.4. \$495. LaserWare, PO Box 668, San Rafael, CA 94915. CP (Jan 88)

The Mac Art Dept. is a collection of over 150 graphic images ranging from foods to hands holding signs to borders. Best suited for letterheads, memos, other business use. \$39.95. Simon & Schuster, Computer Software Div., 1 Gulf & Western Plaza, New York, NY 10023. NCP (Mar 86)

Mac-a-Mug is an Identikit type program for creating faces from facial feature files. Uses scroll bars that are slow and jerky. Lots of creative fun. 512K+ Mac required. \$59.95. Shaherazam, PO Box 26731, Milwaukee, WI 53226. CP (Jul 86)

MacCalligraphy is the best simulation of brush painting in any graphics program. User-designed Seals and Touches enable you to design your own signature tool and the style of brush you use. Comes with a clip art disk. \$175. Qualitas Trading, 6907 Norfolk Rd., Berkeley, CA 94705. NCP (Feb 88)

MacDraft is an object-oriented graphics program. It sports advanced features such as variable scaling, single degree rotation, complex arcs and a FatBits-like magnification mode. Best used to complement *MacDraw*, not replace it. \$239. Innovative Data Design, 2280 Bates Ave., Ste. A, Concord, CA 94520. NCP (Feb 86)

MacDraw is an object-oriented structured graphics program. Can be used to design forms, create presentation materials and do technical illustrations. Drawing sizes up to 8 feet by 10 feet are possible. Text can be easily generated and integrated in the graphics. \$195. Claris, 440 Clyde Ave., Mountain View, CA 94043. NCP (Nov 85)

MacModel is an economical 3D package with shading. Somewhat sketchy Mac interface, shading speed slow (but acceptable), grainy image resolution. On-line help screens are a welcome addition. Frequent updates and low price make this a reasonably good buy. \$40. A.P.P.L.E. CO-OP, 290 SW 43rd St., Renton, WA 98055. NCP (Aug 86)

MacPaint is the graphics program that started a whole new genre. Still the best freehand graphics tool. Version 1.5 supports 512K+ Macs and the LaserWriter. Multiple tools, patterns and features too numerous to describe. A work of art for artists. \$125. Claris, 440 Clyde Ave., Mountain View, CA 94043. NCP

MINIFINDERS



Mac3D 2.0 is a feature-laden 3D program with a *MacDraw*-like interface. PostScript-resolution shading with six variable light sources, user-definable tools, and many more features make this a powerhouse. \$249. Challenger Software, 18350 Kedzie Ave., Homewood, IL 60430. NCP (Jan 87)

MapMaker produces maps and analyses of related geographical data. Additional data disks available. Documentation could be better. Requires 512K; 2nd drive recommended. \$295. Select Micro Systems, 40 Triangle Ctr., Yorktown Heights, NY 10598. NCP (Jan 87)

MGMS: Professional CAD for Macintosh offers more than 200 functions. Very complete, capable program. Groups, Dimension, Libraries, etc. are standard. Sometimes confusing — designed for experienced, professional CAD user, not the novice. Full plotter support. 512K+ or Mac XL. \$799. Micro CAD/CAM, 3230 Overland Ave., Los Angeles, CA 90034. NCP (Nov 87)

MiniCad V3.0 is a pro level CAD package. Vast array of features, many accessible only through command/shift/option key combinations. Works in 2-D or 3-D with easy transition from one to the other. *MacDraw*-like interface makes it easy to learn and use. Requires 512K+. Diehl Graphsoft, 8370 Court Ave., Suite 202, Ellicott City, MD 21043. CP (Oct 87)

MockPackage+ is a set of extremely powerful DAs. Includes a text editor, text printer (supports LaserWriter), charter, terminal and EZmenus. HFS compatible. \$35. CE Software, 801-73rd St., Des Moines, IA 50312. NCP (Mar 87)

PageMaker uses a graphics studio metaphor to make this layout program a natural for pasteup artists. Version 2.0 adds automatic kerning and hyphenation. Still the standard. Excellent documentation. Could use a global search and replace for design elements. \$495. Aldus, 411 First Avenue South, Seattle, WA 98104. NCP (Oct 87)

Phoenix 3D is an economical 3D drawing package, with features that belong in a more expensive program. Multiple light sources, fine object placement and orientation control, and a good selection of shapes. \$49.95. Dreams of the Phoenix, PO Box 10273, Jacksonville, FL 32247. NCP (Oct 86)

PictureBase is a powerful graphic librarian. You can store paint and PICT formatted items and attach keywords for later search and retrieval. \$69.95. Symmetry Corp., 761 E. University Dr., Mesa, AZ 85203. NCP (Sep 87)

Portfolio: Designs for Newsletters provides over 20 templates for 2-page newsletters with pre-set columns, headlines, graphics and captions. Documentation provides excellent tutorial in page design. Requires 512K+. *PageMaker*. \$79.95. Aldus Corp., 411 First Ave. S., Suite 200, Seattle, WA 98104. NCP (May 87)

The Print Shop makes it easy to create greeting cards, signs, banners and letterheads. Uses its own special graphics and can import *Paint* files. Hard disk users get version 1.02 or higher. \$79.95. Broderbund, 17 Paul Dr., San Rafael, CA 94903. CP (Sep 87)

Quark XPress is a high end desktop publishing application. Layout is done in block format; powerful lining tool ties blocks together. \$695. Quark, 2525 West Evans, Denver, CO 80219. NCP (Sep 87)

Ragtime is an "Integrated Page Processor" with text, graphics and built-in spreadsheet. Flow text automatically from one frame to another. Spreadsheet has a full set of functions. Excellent, easy to use program. Requires 512K+. \$395. Orange Micro, 1400 N. Lakeview, Anaheim, CA 92807. NCP (Apr 87)

Ready, Set, Go! 4 has an elegant interface and excellent manual. Powerful text wraparounds, fast word processor with hyphenation and spelling check and custom stylesheets. Requires 512K+. \$495. Letraset, 40 Eisenhower Dr., Paramus, NJ 07652. NCP (Feb 88)

Scoop could someday be the world's best desktop publishing program, but version 1.0 isn't it. There are various ways to cause the program to bomb which need to be fixed. The manual is poorly organized and lacks tutorials. \$495. Target Software, 14206 SW 136th St., Miami, FL 33186. NCP (Feb 88)

Slide Show Magician 1.3 is useful for creating full screen audio-visual presentations on the Mac. Frame branching, improved editing capabilities, external cassette recorder synchronization and digitized sound capabilities make this much more powerful than the

original. \$59.95. Magnum, 21115 Devonshire St., Chatsworth, CA 91311. CP (Mar 86)

Space Edit is a 3-D CAD program. Display shows top, front, side and axonometric views of an object, all at once or one at a time. Has standard CAD features plus zoom, exploded view, animated flyover. Suppression of hidden lines is very slow. Requires 512K+. \$625. Abvent, 9903 Santa Monica Blvd., Suite 268, Beverly Hills, CA 90212. CP (Jul 87)

Storyboarder produces working animated storyboards for use in film and video production. Imports graphics from *MacPaint*; allows screen masking to simulate television, 35mm or 70mm screen widths; allows limited animation and special effects. \$495. American Intellware, PO Box 6980, Torrance, CA 90504. CP (Nov 86)

SuperPaint is a powerful, easy-to-use graphics program with all the best features of *MacPaint* and *MacDraw* — and then some. Among the new features, LaserBits provides 300 dpi magnification and there are 40 editable brush shapes. Requires 512K+. \$149.95. Silicon Beach, 9580 Black Mountain Rd., PO Box 261430, San Diego, CA 92126. NCP (Feb 87)

WetPaint consists of two 3-disk volumes of very high quality clip art. Also includes the *Art Roundup* DA, the best art browser/editor yet. Volume 1 or 2, \$39 each; both volumes, \$59. Available in *PictureBase* format for \$15 extra per volume. *Dubl-Click* Software, 18201 Gresham St., Northridge, CA 91325. NCP (Sep 87)

World-Class Fonts! comes in two volumes of three disks each. Includes all the *Mac the Knife* fonts and a lot more, including 2 useful utilities. This is now the best collection of *ImageWriter* fonts available. Each volume: \$39; both volumes: \$59. *Dubl-Click* Software, 18201 Gresham St., Northridge, CA 91325. NCP (Dec 86)

COMMUNICATIONS

AppleShare is the long awaited file sharer from Apple. Software-based, *AppleShare* requires you to dedicate a Mac and a hard disk to run it. Allows users on the network to protect things from other users on the folder level. Interface to network is provided at a revised *Finder*. \$799. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP (May 87)

ComServe allows you to share a Hayes-compatible modem over an AppleTalk network. You can call out, but you can't call in. Works with most telecommunications packages. \$195 per server. Infosphere, 4730 SW Macadam Ave., Portland, OR 97201. CP (Feb 88)

Desktop Express is a simple to use, semi-automated program for using MCI Mail and Dow Jones News/Retrieval. Performance is traded off for ease of use. Requires 512K+. \$149. Dow Jones, PO Box 300, Princeton, NJ 08543. NCP (Jan 88)

HomePak is a package consisting of *HomeTerm*, an excellent, simple telecommunications program with strong macro features; *HomeFind*, an electronic filer as bad as *HomeTerm* is good; and Apple's *Edit*, a simple, non-HFS-compatible text-file editor. \$49.95. Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404. NCP (Sep 86)

InBox is an easy to use mail system. It's called up from a desk accessory. Has a very slick interface. Dedicated Mac not required. \$350 for starter set which includes one Administrator disk and three Connection disks. Additional Connections cost \$125 each. Think Technologies, 135 South Rd., Bedford, MA 01730. NCP (May 87)

InTalk comes with its own communications command language able to do unattended sessions. Supports Xmodem and MacBinary. Has a macro key function. Many sample setup documents and command language files provided. \$195. Palantir, 12777 Jones Rd., Houston, TX 77070. NCP (Prem)

MacTerminal provides basic telecommunications and terminal emulation for the Mac user. Doesn't have macros nor any sort of auto redial/auto logon capability. Best for those needing faithful VT100 or IBM 3278 emulation — it is superb at those. \$125. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP (Prem)

MINIFINDERS



Microphone is a high-powered terminal program that's easy enough for **☆☆☆☆** novices. Very powerful command language allows full automation of communications, if desired. \$149. Software Ventures, 2907 Claremont Ave., Berkeley, CA 94705. NCP (Jul 86)

Microsoft Mail is an electronic mail system that runs under AppleTalk. **☆☆☆☆** Supports file transfers across the mail system. Full on-line help facility. Also includes "While you were out" messages. Desk accessory based. Prices determined by number of users licensed. One to four users, \$299.95; 5 to 10 users, \$499.95; 11 to 20 users, \$749.95; 21 or more users, \$949.95. Microsoft, 16011 NE 36th Way, Redmond, WA 98073-9717 NCP (May 87)

Red Ryder is a full-featured telecommunications program that supports **☆☆☆☆** MacBinary, Xmodem and Kermit. Has big screen support, auto procedure creator, and up to 30 keyboard macros. This is the cream of the crop (in late 87). \$80. The Freesoft Company, 150 Hickory Dr., Beaver Falls, PA 15010. NCP (Dec 87)

Smartcom II balances power and ease of use. Capable of unattended **☆☆☆☆** operation and has a very powerful command language. Supports MacBinary, Xmodem and Hayes Verification protocols. The large screen buffer can easily be archived. \$149. Hayes, 5923 Peachtree Industrial Blvd., Norcross, GA 30092. NCP (Jul 86)

Telescope is the power telecommunicator's terminal program. Can be **☆☆** configured to emulate any terminal. The documentation does not adequately explain the many features. \$125. Mainstay, 5311B Derry Ave., Agoura Hills, CA 91301. NCP (Jun 86)

TOPS is a file server that is designed to network computers with different **☆☆☆☆** operating systems. The current system will support Macs, MS-DOS compatibles and UNIX. Access to files and subdirectories is transparent to the user; they appear as Mac folders. Only handles ASCII or Text files. \$149 for Mac version. \$389 for PC's (comes with add-on card). TOPS, 2560 Ninth St., Berkeley, CA 94710. Serial number protected. (May 87)

VersaTerm features include DEC VT100 and VT52, Tektronix 4014 **☆☆☆☆** graphics terminal and Data General DG200 emulation. Supports Xmodem and MacTerminal Xmodem protocols and MacBinary. *VersaTerm* is easy to use and well documented. \$99. Peripherals, Computers & Supplies, 2457 Perkiomen Ave., Mt. Penn, PA 19606. CP (Prem)

VersaTerm-Pro is a very powerful terminal program with several special **☆☆☆☆** features. Does one of the best VT100 emulations available and specializes in high-quality Tektronix 4014 and 4105 emulation. A pro's tool. Requires 512K+. \$295. Peripherals, Computers & Supplies, 2457 Perkiomen Ave., Mt. Penn, PA 19606. NCP (Apr 87)

WORD PROCESSORS

Document Compare allows users to compare any two *MacWrite* 4.5, **☆☆** ASCII or MDS documents. Differences in spelling, punctuation, formatting and wording are detected. Documents can be printed out with differences highlighted. \$99. Legalware, 33 Young St., Toronto, Canada M5E 1S9. NCP (May 86)

Document Modeler can automate much of a professional office's correspondence. Comes in two parts: *Template Maker* and *Document Maker*. Initial setup requires time and is complex. \$299.95. Legalware, 33 Young St., Toronto, Canada M5E 1S9. NCP (Mar 87)

Doug Clapp's Word Tools is a useful punctuation and style editing **☆☆** program. It won't turn you into a Proust, but it will help you make your writing cleaner and clearer. Word counts among different formats show discrepancies, but not to worry. Requires 512K+. Aegis Development, 2125 Pico Blvd., Santa Monica, CA 90405. NCP (Sep 87)

Expressionist is a powerful DA that allows you to create complex mathematical equations from within an application. Equation manipulation has never been easier. \$79.95. Allan Bonadio Associates, 1579 Delores St., San Francisco, CA 94110. NCP (Jul 87)

JustText is a professional level word processor and page makeup **☆☆☆☆** program that generates PostScript output. Comes with a set of

LaserWriter utilities that allow total manipulation of art and text. Requires LaserWriter or other PostScript compatible output device. \$195. Knowledge Engineering, GPO Box 2139, New York, NY 10116. NCP (Dec 85)

Kadmos Greek Font is a full character set of ancient Greek that prints on **☆☆** any PostScript printer. Requires learning new typing skills, but excellent quality makes it worth the effort. Allotype Typography, 1600 Packard Rd., Ann Arbor, MI 48104. NCP. (Oct 87)

Laser Author is a high-powered, technically oriented word processor. **☆☆** Good math setting capability. Has style sheets, word count and page layout capability. \$199.95. Firebird Licensees, PO Box 49, Ramsey, NJ 07446. NCP (Mar 87)

Lookup is an on-call, quick single word spelling checker. Designed for **☆☆☆☆** the way writers really work. Uses the 93,000+ word *Spellswell* dictionary. \$49.95. Working Software, 321 Alvarado, Suite H, Monterey, CA 93940. (Dec 87) NCP

MacProof is a grammar, style and spelling checker that's like having **☆☆☆☆** your own personal copy editor. Grammar rules are fixed, and you may not agree with the choices. The program only suggests corrections, it doesn't make them for you. And the checking process can be slow if your document is long. \$195 for stand-alone version; \$2500 for networked version. Automated Language Processing Systems, 190 West 800 North, Provo, UT 84604. NCP (Apr 87)

Macspell + (version 1.10) is a spelling checker that installs as a desk **☆☆** accessory. Works easily with *MacWrite* 4.5 and 2.2 and *Word*, but has some drawbacks. New version just available. Requires 512K+, two drives or hard disk. \$99. Creighton Development, 16 Hughes St., Irvine, CA 92718. NCP

MacWrite is the basic Mac word processor. While it doesn't have every **☆☆** bell and whistle, it is more than adequate for most users. Features include global search and replace, page numbers indicated in the scroll bar and excellent LaserWriter compatibility. \$125. Claris Corp., 440 Clyde Ave., Mountain View, CA 94043. NCP

MergeWrite is a mail merge program for *MacWrite* (also works with **☆☆** ASCII files). Program combines names and addresses from a data file into predefined fields in a form letter. Also allows simple conditional IF-THEN-ELSE equations. \$49.95. Software Discoveries, 137 Krawski Dr., South Windsor, CT 06074. NCP (Dec 87)

MindWrite integrates outlining and word processing better than any **☆☆** one. Version 1.1 fixes many problems of the earlier version. Sophisticated search and select options. Unimpressive speed. \$295. MindWork Software, PO Box 2223, Monterey, CA 93942. NCP (Feb 88)

Scriptor is designed for producing standard format scripts. Starts with a **☆☆** *Word* document. As you change your *Word* document, *Scriptor* will reformat, renumber and reprint the script. Supports LaserWriter and daisywheel printers. \$295. Screenplay Systems, 348 E. Olive Ave., Suite F, Burbank, CA 91502. NCP (May 87)

Spelling Champion is a fast and accurate batch-type spelling checker. **☆☆** Backup feature allows you to undo corrections in a paragraph. Works only with *MacWrite* 4.5. \$39.95. Champion Software, 6617 Gettysburg Dr., Madison, WI 53705. NCP (Oct 86)

Spellswell is an effective and powerful standalone spelling checker. It **☆☆** has many advanced features such as capitalization and homonym checking and comes with a large, well-chosen dictionary. Very good dictionary, good value. \$74.95. Working Software, 321 Alvarado, Ste. H, Monterey, CA 93940. NCP (May 86)

Thunder! is one of the best spelling checkers around. Features Learned **☆☆** Words (a superb glossary) and statistics. A very fast DA, it works interactively and in selection mode. Requires 512K+. \$49.95. Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404. NCP (Dec 86)

Word 3.0 is the most feature laden word processor now available. Has a **☆☆** spelling checker, hyphenation, some page layout, style sheets and more. Also has Microsoft's somewhat unusual view of what the Mac interface is. Requires 512K+ and 1200K+ of storage. \$395. Microsoft, 16011 NE 36th Way, Redmond, WA 98073-9717. NCP (Mar 87)

WorksPlus Spell is a speedy spelling and hyphenation checker for **☆☆** *Microsoft Works*. It includes a glossary for abbreviations and

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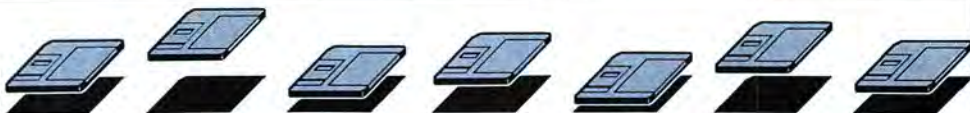
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MINIFINDERS



time/date stamping. The biggest drawback is its limitation to one program. \$59.95. Lundeen & Associates. PO Box 30038, Oakland, CA 94604. NCP (Oct 87)

WriteNow for the Macintosh has many of the features of *MacWrite* and then some, including the ability to work in columns. Has built-in spelling checker with 50,000-word dictionary. \$175. T/Maker, 1973 Landings Dr., Mountain View, CA 94043. NCP (Mar 87)

SYSTEM SOFTWARE

HyperCard is a totally unique program for the Mac. It uses an index card metaphor. It contains a programming language, *HyperTalk*. Requires 1 meg. Free with new Macs, otherwise \$49.95. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP (Dec 87)

ORGANIZATIONAL TOOLS

Acta is an outline processor in desk accessory format. It has practically all the power of a standalone program, and then some. Can save files as *Acta* outlines, *MacWrite* or text files. \$59.95. Symmetry, 761 E. University Dr., Mesa, AZ 85203. NCP (Jul 86)

Calloper is a new type of outlining program. Chunks of information are manipulated as small "light bulbs" containing text. Related elements can be graphically connected, and their text information viewed in hierarchical order. Text files can be created for *MacWrite* editing. \$99. Innovision, PO Box 1317, Los Altos, CA 94023. NCP (Sep 86)

Comment (previously known as *Memorandum*) is the electronic equivalent of Post-It Notes. Notes can be attached to many different types of documents. Doesn't work well with *SuperPaint* or *Microsoft Works*. An alarm clock feature alerts users of Timed Notes. \$99.95. Deneba Systems, 14206 SW 136th St., Miami, FL 33186. NCP (Nov 87)

DecisionMap organizes data to facilitate decision making. Unique weighting abilities make this a powerful tool. The decision analysis process is long and sometimes complex, but never difficult. \$145. SoftStyle, 7192 Kalanianohe Hwy., Honolulu, HI 96825. CP

Design is a powerful organizational tool. It goes beyond mere flowcharting. Complex, detailed program aimed at software pros. \$250. Meta Software, 150 CambridgePark Dr., Cambridge, MA 02140. NCP (Apr 87)

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Guide allows you to "cross reference" from within a document using hypertext. You can set up words or sections of the document so that double-clicking brings up explanatory material, graphics and other useful items. The word processing and formatting functions, however, are limited. \$135. OWL International, 14218 NE 21st St., Bellevue, WA 98007. NCP (Apr 87)

Instant Expert is an excellent way to learn the mechanics of creating an expert system. The inference engine (that ultimately finds the answer) is visible. Lacks a true Mac interface. Version 1.0. \$49.95. Human Intellect Systems, 1670 S. Amphlett Blvd., Suite 326, San Mateo, CA 94402. NCP (Jan 88)

MacProject allows a user to plan and track a project from beginning to end. Uses CPM to produce schedules with start and finish dates for each task. Can report on resource interdependencies and generate all needed printed reports. \$195. Claris Corp., 440 Clyde Ave., Mountain View, CA 94043. NCP (Mar 86)

MacSMARTS can create small standalone expert systems. Features hypertext connections to Paint, PICT, SYLK and text files. Still a little buggy. Requires 512K. Version 1.03. \$149.95. Cognition Technology, 55 Wheeler St., Cambridge, MA 02138. NCP (Jan 88)

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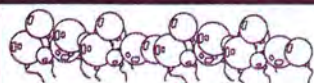
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ThinkTank 512 is a very fast and intuitive organizational tool. Full keyboard control is possible. Can store and paste graphics into outlines. Slide show feature allows high-quality presentations to be created. Good report formatting and printing capability. \$195. Living Videotext, 117 Easy St., Mountain View, CA 94043. CP (Jan 86)

DESK MANAGERS

BatteryPak is a set of 9 handy desk accessories including scientific and RPN calculators, a background text file printer and a 250-page note pad with search and phone dialing capabilities. \$49.95. Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404 NCP (Dec 85)

Executive Office is a jack of all trades office application. Good data base, word processing, graphics and minispreadsheet. Available on 400 or 800K disks; get the 800 if you can. \$249.99. DataPak, 14011 Ventura Blvd., Sherman Oaks, CA 91423. CP (Mar 87)

Front Desk lets small businesses and offices easily keep track of personnel schedules, activities and payments. The program can keep track of up to 15 employees, functioning as a day-, week- and month-at-a-glance calendar. \$149.95. Layered, 85 Merri-mac St., Boston, MA 02114. NCP (Dec 85)

My Office lets you handle your files and papers in much the same way you did before you got a computer. Excellent use of graphic symbols. \$129.95. DataPak, 14011 Ventura Blvd., Sherman Oaks, CA 91423. CP (Prem)

Quickset is a set of desk management and organizational tools that can be used as desk accessories or applications. Functions include note filer, card filer, calendar, phone dialer, financial and statistical calculators and a file encryptor. \$49.95. EnterSet, 2380 Ellsworth, Berkeley, CA 94720. NCP (Dec 85)

SideKick 2.0 beefs up original *SideKick* DAs and adds two major new ones — *MacPlan*, (formerly *Click-On Worksheet*) and *Outlook*, a full-featured outliner. Also comes with seven applications to support the desk accessories. \$99.95. Borland International, 4585 Scotts Valley Dr., Scotts Valley, CA 95066. NCP (Jun 87)

Smart Alarms is the best reminder system for the Mac. Easy to use, versatile and, well, smart. This self-running DA automatically reminds you of anything you enter into its Reminder file, giving you a wide range of useful advance warning options. \$49.95. Imagine Software, 19 Bolinas Rd., Fairfax, CA 94930. NCP (Oct 86)

Top Desk is a set of 7 self-installing (and self-removing) DAs. *Menu Key* adds Command key sequences to programs; *View* allows looking at and moving data between up to 8 *MacWrite* documents; also included are *BackPrint*, *Touch 'n' Go*, *Blank*, *Encrypt* and *Launch*. \$59.95. Cortland Computer, PO Box 9916, Berkeley, CA 94709. NCP (May 86)

UTILITIES

Accessory Pak 1 is a set of useful applications and utilities. *Paint Cutter* alone is worth the price. That program allows users to browse and manipulate full page *MacPaint* documents. \$39.95. Silicon Beach, PO Box 261430, San Diego, CA 92126. NCP (Nov 85)

AutoSave DA is insurance against system crashes. It saves your work automatically at intervals from 1 to 99 minutes. Compatible with many applications, but not recommended for use with data bases. \$49.95. Magic Software, 1706 Galvin Rd. S., Bellevue, NE 68005. NCP (Jan 88)

Colorizer adds pigments to the desktop and black and white applications. Also colors PICT graphics. System resources include saving and printing color screens. A useful novelty that'll run its course as developers add color to apps. Requires Mac II. \$49.95. Palomar Software, PO Box 2635, Vista, CA 92083. NCP (Jan 88)

Copy II Mac does efficient sector and bit copies and in its latest version can back up virtually all Mac software. Features graphic displays of copy progress. Comes with *MacTools*, a multi-use utility that can recover many damaged files. \$39.95. Central Point Soft-

ware, 9700 SW Capitol Highway, Portland, OR 97219. NCP (Apr 86)

DiskExpress unfragments disk volumes by reorganizing data into continuous sectors and arranging files to slow down further fragmentation. Works with *MacServe*, floppy drives and most hard drives. Requires 512K+. \$39.95. ALSoft, Box 927, Spring, TX 77383. NCP (Feb 87)

DiskFit is a utility for backing up and restoring hard disk files. Creates a "SmartSet" of floppy disks so incremental backups only update files modified since the last backup procedure. Backs up to floppies or another hard disk. Requires 512K+. \$74.95. Super-Mac Software, 295 N. Bernardo Ave., Mountain View, CA 94043. NCP (Jun 87)

DiskQuick is an easy to use cataloging program. Criteria selection option for generating subcatalogs. Requires 512K+. \$49.95. Ideaforms, P.O. Box 1540, Fairfield, IA 52556. NCP (Apr 87)

Disk Ranger is a speedy cataloging program that doubles as an efficient labelmaker. Comes with pinfeed labels. Works with regular and hard disks. Can catalog HFS systems. \$34.95. Graham Software, 8609 Ingalls Circle, Arvada, CO 80003. NCP (Mar 86)

DiskTop 2.0 is a desk accessory *Finder* replacement of extraordinary power and ease of use. Comes with the useful *LaserStatus* DA and *Widgets* application. The extras alone are worth the price. Requires 512K+. Upgrade from version 1.0, \$7; \$10 with new manual. \$39.95. CE Software, 801 73rd St., Des Moines, IA 50312. NCP (Aug 87)

Dubl-Click Calculator Construction Set lets users design personalized calculators with a variety of standard and special functions. Finished calculators can be saved as installable desk accessories or as clickable applications. \$59. Dubl-Click Software, 18201 Gresham St., Northridge, CA 91325. NCP (Apr 86)

Fedit Plus is the file and disk editor for everyone, from newest Mac owner to oldest. It can do more for your disks and files than any other application. Can recover deleted MFS files. If you own a Mac, get it. HFS-compatible. \$49.95. MacMaster Systems, 108 E. Fremont Ave., #37, Sunnyvale, CA 94087. NCP (Sep 86)

Findswell is an indispensable utility that installs a new button in the Open Dialog box of virtually every Macintosh application. Press the button, type a search string, press Find and *Findswell* searches for any files that match. Click Open or double-click to open the correct file. \$49.95. Working Software, 321 Alvarado, Monterey, CA 93940. Requires 512K+. NCP (Nov 87)

FlashBack is a utility to back up HFS hard disks onto floppies. A unique graphic display of the HFS directory facilitates file selection. The program can handle files larger than 800K. \$59.95. Mainstay, 5311B Derry Ave., Agoura Hills, CA 91301. NCP (Nov 86)

Glue adds a print-to-disk capability to many programs. *ImageSaver* installs as printer driver; *Viewer* allows copying and printing of *Glue* files. Handy utility for desktop publishers. \$59.95. Solutions International, Box 989, Montpelier, VT 05602. NCP (Dec 86)

Hard Disk Util uses patch files to allow users to mount and run specified programs on their hard disks. The list of patches is constantly expanding. \$89.95. FWB Software, 2040 Polk St., San Francisco, CA 94109. NCP

HFS Backup ranks as one of the preferred hard disk backup utilities. Back up by file/folder or last changes. Backup specifications can be saved as templates. Good graphic interface. Reliable program. \$49.95. PCPC, 6204 Benjamin Rd., Tampa, FL 33614. NCP (Dec 86)

HFS Locator Plus is the essential HFS desk accessory. It can search for a file by name or date of creation, create folders, move files from one folder to another, set a program to launch while in an application. \$39.95. PBI Software, 1163 Triton Dr., Foster City, CA 94404. NCP (Sep 86)

LabView automates the repetitive task of controlling laboratory instruments. Rich icon-based language allows flow chart type programming, but response is slow. Requires 512K+. \$1995. National Instruments, 12109 Technology Blvd., Austin, TX 78727. NCP (Aug 87)

LaserServe is a printer spooler for AppleTalk networks. After installation all operations done via a desk accessory. Works with both *Mac-*



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MINIFINDERS



Serve and TOPS. Requires 512K+ and 800K drive or hard disk. \$95 per node. Infosphere, 4730 SW Macadam Ave., Portland, OR 97201. NCP (Feb 87)

Mac Disk Catalog II is a utility that will quickly organize a moderate size disk library. Easy to use with powerful reporting and label-making features. \$49.95. New Canaan MicroCode, 136 Beech Rd., New Canaan, CT 06840. NCP (Dec 85)

MacFlow is a design tool created for programmers. Traditional flowcharting symbols are linked together, and a symbol can be connected to a separate flowchart file. Symbols can't be edited, precluding using *MacFlow* for other applications. \$125. Mainstay, 5211-B Derry Ave., Agoura Hills, CA 91301. NCP (Apr 87)

MacInUse tracks time spent in applications and saves info as text files. **Installs** on any disk, works in background. MFS, HFS compatible. Extremely valuable for tax purposes, client records, etc. \$79. SoftView, 4820 Adohr Lane, Camarillo, CA 93010. NCP (Jan 87)

MacLabeler lets users instantly index and print labels for all the disks in a burgeoning collection. Choose border type and orientation of your label; index by folder or document. Starter set of labels is included. \$49.95. Ideaform, PO Box 1540, Fairfield, IA 52556. NCP (Prem)

MacNosy is a global disassembler. A very advanced user can use this program to look into the code of virtually any program. This advanced tool can take you places no other Mac program could dream of going IF you have the skill to guide it. The documentation is sparse. For pros only. \$90. Jasik Designs, 343 Trenton Way, Menlo Park, CA 94025. NCP

Mac + II lets you run Apple II software on the Mac. Emulation speed is only 35 to 45 percent of a real Apple II, so graphics especially suffer. Games also run slow. Runs *AppleWorks* (Apple II integrat-

ed software). Good for ex-Apple II owners who have large software collections. \$149.95. Meacom, PO Box 272591, Houston, TX 77277. CP

MacSafe is a data file security program that allows you to place multiple files into a "safe," and then you can further protect them through two types of encryption (including DES). Flexible and very easy to use. Allows for installation on hard disk. \$149.95. Kent Marsh Ltd, 1200 Post Oak Blvd., Houston, TX 77056. CP (Mar 87)

MacServe converts a Mac and a hard disk into a disk and print server. **Installs** Uses the AppleTalk network and is easily hooked up. Users can partition the hard disk into multiple volumes. Runs in the background, so users can work on all machines in the network. \$250. Requires 512+ or Mac XL. Infosphere, 4730 SW Macadam, Portland, OR 97201. CP

MacZap is a three-part disk and memory utility. It can be used to recover some damaged files and disks, compare disks, analyze disk structure and make back-up copies of most disks. \$60. Micro Analyst, 2505 Roxmoor, Austin, TX 78723. NCP (Jan 86)

Menu Fonts displays the names of fonts in the actual font instead of standard Chicago. Won't work with programs that have a non-standard Font menu or no Font menu. Comes with *LockOut*, a utility that gives password access to your Mac, and *FastFormatter*, a utility for formatting multiple blank disks. Requires 512K+. \$15. Beyond Software, 3865 N. Oracle Rd., Tucson, AZ 85705. NCP (Jul 87)

myDiskLabeler is an excellent label maker. It can read directories and use large or small icons or anything desired. Comes with 54 pre-cut labels. \$44.95; with color printing ability (on the Image-Writer II), \$54.95; with PostScript font capability (on the Laser-Writer), \$64.95. Williams and Macias, PO Box 19206, Spokane, WA 99219. NCP (Aug 87)

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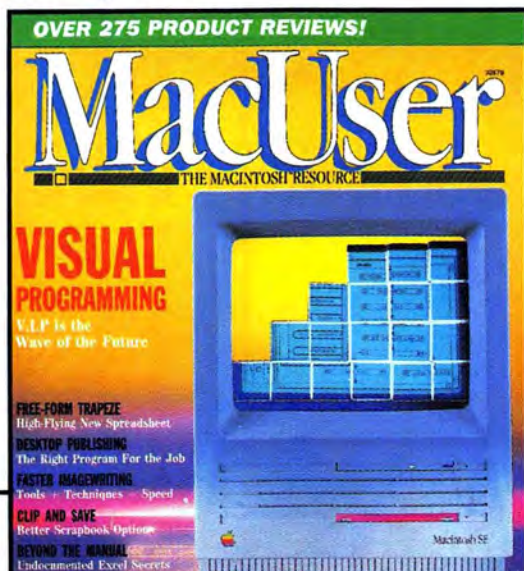
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'Ncryptor is a simple, safe program that lets users password their files.

★★★★ The same program is used for encoding and decoding. This is one of the best products in its category. \$39.95. Mainstay, 5311B Derry Ave., Agoura Hills, CA 91301. NCP

Packit III is an essential utility. Primarily used to temporarily "glue" files together, it can also compress and encrypt. Feeware. \$10, \$10 for printed manual. Harry R. Chesley, 1850 Union St., San Francisco, CA 94123. NCP (Jan 87)

PowerStation is an extremely easy to use, versatile and powerful Finder substitute. Loaded with power user features. Comes with *Pyro!* \$59.95. Software Supply, 599 N. Mathilda Ave., Suite 210, Sunnyvale, CA 94086. (Dec 87) NCP

Printworks for the Mac is a comprehensive software-based dot-matrix printer control system. Optimizes printing from different applications, and is easy to use. Requires 512K+. \$75. Soft-Style, 7192 Kalamiaole Hwy., Honolulu, HI 96825. NCP (Aug 87)

Programmer's On-line Companion puts an abridged version of *Inside Macintosh* in your system for reference. Simply read the text or transfer some or all of it directly into your normal editing window. Non-Macish interface makes the program confusing, somewhat difficult to use. \$34.95. Addison-Wesley, Route 128, Reading, MA 01867. NCP (Jul 87)

Quick & Dirty Utilities, Volume One is a disk full of handy programs. ★★★★★ Several desk accessories include a menu bar clock and a terminal emulator. \$39.95. Dreams of the Phoenix, PO Box 10273, Jacksonville, FL 32247. NCP (Nov 85)

QuickKeys lets you make full use of your keyboard. Assign any command (menu choices, DAs, etc.) or series of text blocks and/or command to any key or key combination. Enormously powerful; necessary for Apple Extended Keyboard owners. Requires

512K+. \$99.95. CE Software, 801-73rd St., Des Moines, IA 50312. NCP (Jan 88)

RamSnap is a RAMdisk and disk cache in one easy to use package. Can store multiple configurations as files. Good product but a little pricey. \$59.95. Dove Computer Corp., 1200 North 23rd St., Wilmington, NC 28405. NCP (Jun 87)

SmartScrap and The Clipper are two useful desk accessory utilities for ★★★★★ graphics work. *SmartScrap* is a major enhancement to the standard Scrapbook DA. *The Clipper* provides you with a transparent Clipboard window, allowing you to resize or crop a graphic to the area that it will be pasted to. \$59.95. Solutions International, PO Box 989, Montpelier, VT 05602. NCP (Jul 87)

Stepping Out is a software virtual screen extender. Lets you create a ★★★★★ screen as large as memory allows. 9-inch screen is a "view" to larger screen. Also has reduction features. Amazing. \$95. Berkeley System Design, 1708 Shattuck Ave., Berkeley, CA 94709. NCP (Jun 87)

Suitcase is a transparent program that automatically lets you use all ★★★★★ your fonts and DAs. Foolproof and indispensable. Comes with *Pyro!*, the best screen saver. Requires 512K+. \$59.95. Software Supply, 599 N. Mathilda, Sunnyvale, CA 94086. NCP (Nov 87)

SuperLaserSpool is a LaserWriter spooler. Very fast because it does ★★★★★ conversion to PostScript in the background, but doesn't print a faithful rendition of *PageMaker* documents as a result. \$149.95 single user, \$395.95 for up to five users on one network. Super-Mac Software, 950 N. Rengstorff Ave., Mountain View, CA 94043. NCP (Jun 87)

Switcher is Andy Hertzfeld's contribution to Mac productivity. This program ★★★★★ lets users run several programs at once (up to 8 on a 1-megabyte or larger machine). Switching between the programs

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is nearly instantaneous. Requires 512K+. \$19.95 from Apple, free from BBSs, included with some third-party applications. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP (Jun 86)

Tempo is a desk accessory that allows most Mac commands to be intelligently recorded and played back. Capabilities include pausing, conditional branching and macros that work between applications. \$99. Affinity Micro Systems, 1050 Walnut St., Boulder, CO 80302. NCP (Jul 86)

TMON is the debugger for the Mac. This isn't open to question. **TMON** is simply the best. Comes with the latest version of Darin Adler's Extended User Area. \$100. ICOM Simulations, 626 Wheeling Rd., Wheeling, IL 60090. NCP

Turbo Download is a desk accessory designed specifically to increase the speed of Xmodem data transfers from national data bases to your Mac. Speed increases range upward from 50% to over 300% at 2400 baud. \$39.95. Mainstay, 5311-B Derry Ave., Agoura Hills, CA 91301. NCP

Twelve-C Financial Desk Accessory brings all the power and functionality of a Hewlett-Packard 12C programmable calculator to your desktop. Can be programmed and all registers can be viewed while calculator is running. \$39.95. Dreams of the Phoenix, PO Box 10273, Jacksonville, FL 32247. NCP

II in a Mac is a graphically oriented Apple II emulator with unique features, such as text and graphics copy from Apple screen to Mac Clipboard. Suffers speed problems associated with "virtual machine" emulation. \$69. Micro-W Distributing, 1342B Route 23, Butler, NJ 07405. CP

TypeNow is a desk accessory that allows the Mac and ImageWriter to function as an electronic typewriter. Type can be placed into blanks in complex forms easily. Typing can be recorded and

played back. \$39.95. Mainstay, 5311-B Derry Ave., Agoura Hills, CA 91301. NCP (Jan 86)

LANGUAGES

AAIS Prolog is a fast standard Prolog with excellent debugging and error handling. Good for serious program development. Documentation is not as good as the program. \$150. Advanced AI Systems, PO Box 39-0360, Mountain View, CA 94039-0360. NCP (Mar 87)

Aztec C is a C language that will appeal to users with a UNIX background. It uses many UNIX conventions and in the more expensive versions comes with standard UNIX utilities, including the VI editor. \$75 beginners, \$199 basic system, \$299 development system, \$499 commercial system. Manx Software Systems, PO Box 55, Shrewsbury, NJ 07701. NCP (May 86)

Basic Compiler is the long awaited compiler for **Microsoft BASIC**. The interface is unfriendly, but it gets the job done. Compiled programs run faster, but you can still tell they are written in BASIC. \$195. Microsoft, 16011 NE 36th Way, Redmond, WA 98073-9717. NCP (May 87)

ExpCom Lisp is a LISP development system. Not fully Common LISP compatible, but creates good compiled code and stand-alone applications. Requires 1M+. \$995. Expertelligence, 559 San Ysidro Rd., Santa Barbara, CA 93108. NCP (Aug 87)

ExpLISP is a useful programming language for high-level programmers. The more you use it, the more you'll figure out about it. \$495. Requires 512K+. Expertelligence, 559 San Ysidro Rd., Santa Barbara, CA 93108. CP

ExpLogo is a version of the popular teaching language, Logo. Features three-dimensional graphics using "bunnies" rather than

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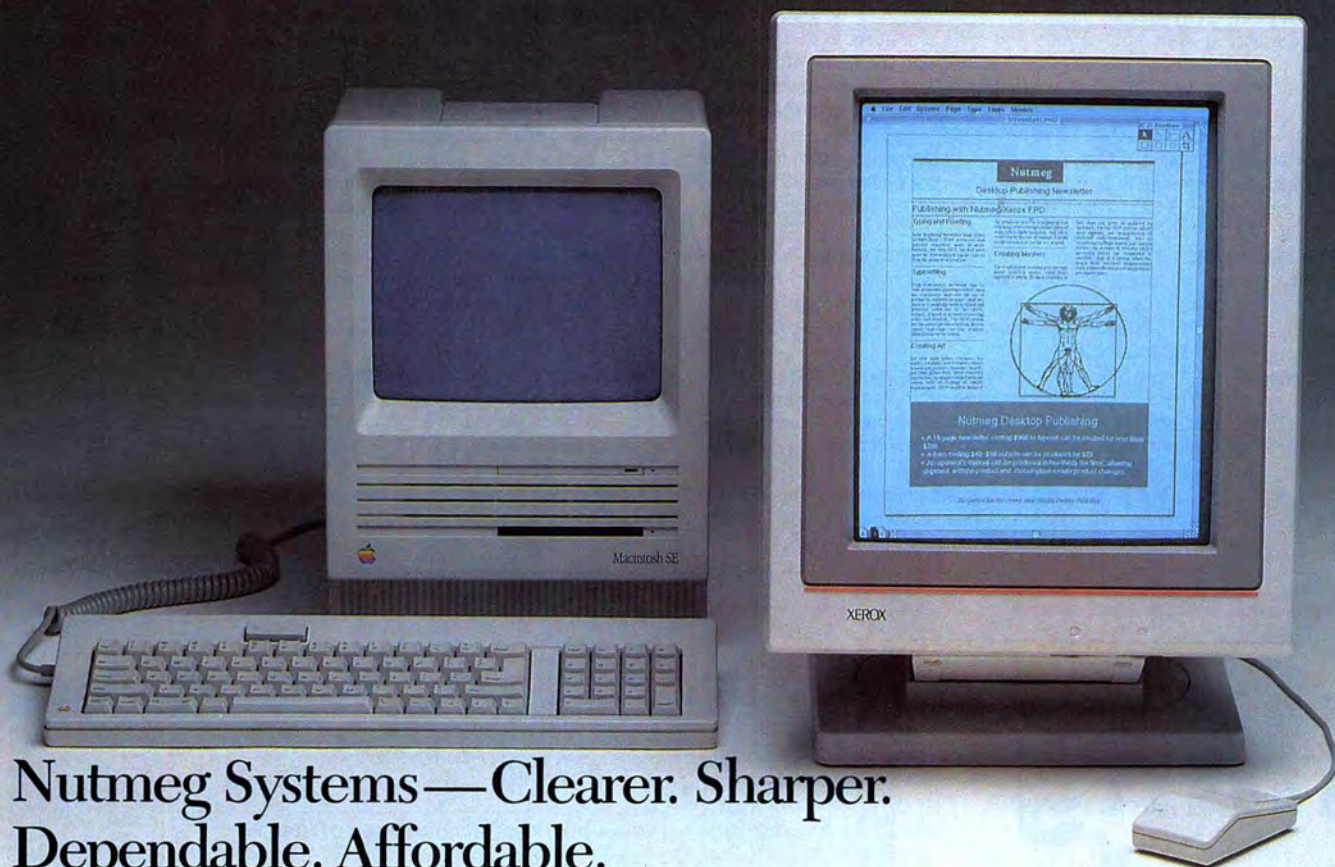
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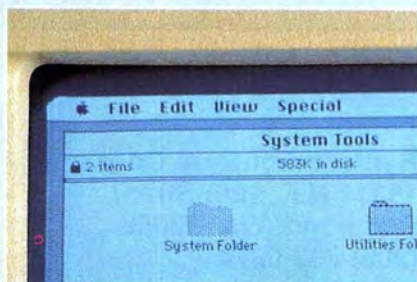


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usual "turtles." Very speedy, smooth program. Comes with an excellent manual. \$149.95. ExperTelligence, 559 San Ysidro Rd., Santa Barbara, CA 93108. CP

ExperProlog II is a Prolog based on the new Prolog II standard. Has the ability to handle infinite trees and allows user-defined functions that operate conditionally. Documentation is not the best and Mac interface is nonstandard. \$495. ExperTelligence, 559 San Ysidro Blvd., Santa Barbara, CA 33108. NCP (Mar 87)

Lightspeed C provides an integrated environment for developing desk accessories, applications and code resources in C. The editor works with the compiler for searches and file management. Can get awkward if you need something outside the environment. \$175. Think Technologies, 135 South Rd., Bedford, MA 01730. NCP (Apr 87)

Lightspeed Pascal is a fast, powerful development system for Pascal programming. Fully integrated Mac-like environment. Requires 512K+. \$125. Think Technologies, 135 South Rd., Bedford, MA 01730. NCP (Feb 87)

LPA MacProlog is a flexible program that supports several Prolog syntaxes, producing a rich programming environment. However, the program's implementation and documentation are both poor. \$495. Programming Logic Systems, 31 Crescent Dr., Milford, CT 06460. NCP (Mar 87)

MacAsm is a software development system that allows programs to be written in assembly language. Programmers can assemble, edit and test software, and an integrated resource compiler lets independent applications run from their own icons. \$125. Mainstay, 5311-B Derry Rd., Agoura Hills, CA 91301. NCP

Mac C is a good, highly Mac-oriented implementation of this popular development language. Assembler and linker included. \$425. Consulair, 140 Campo Dr., Portola Valley, CA 94025. NCP

MacExpress is a development environment or shell. Programmers use it to save time and effort when developing standalone applications for the Mac. \$195. ALSoft, PO Box 927, Spring, TX 77383. NCP (Feb 86)

MacForth Plus is an excellent implementation of the popular Forth programming language. New, reduced price, \$199. Creative Solutions, 4701 Randolph Rd., Rockville, MD 20852. NCP

Mach II is a multitasking implementation of Forth that allows local variables and text files. Can create standalone applications. Several windows can be up with different operations in each, operating concurrently. Execution is fast. \$99.95. Requires 512K. Palo Alto Shipping, PO Box 7430, Menlo Park, CA 94026. NCP (Apr 86)

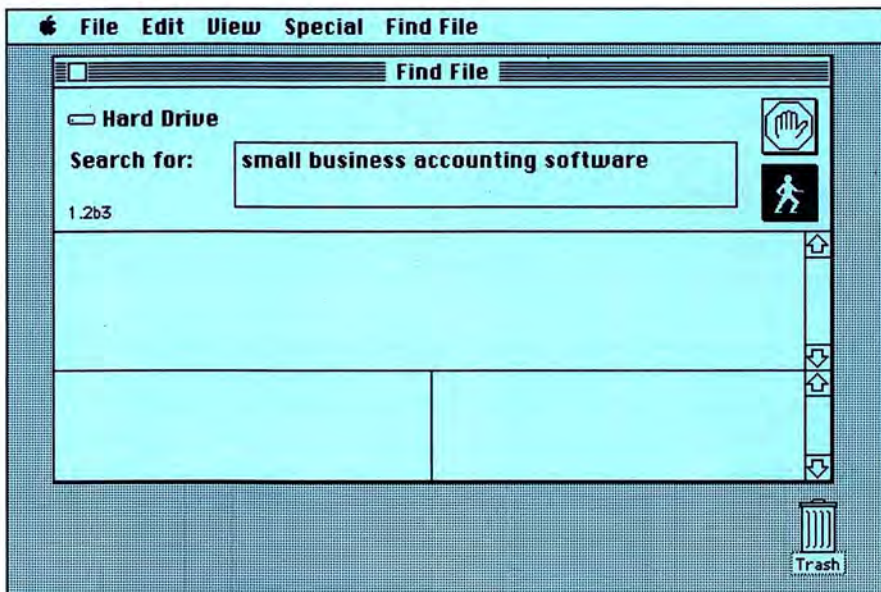
Macintosh 68000 Development System is a fairly traditional assembly language package. The two-disk set provides an editor (*Edit*), an assembler, a linker, an executive and a resource compiler. \$195. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP

Macintosh Pascal is Apple Computer's version of this very popular programming language. Loaded as it is with innovative teaching features, this interpreter is an excellent introduction to Pascal. \$125. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. CP

MacScheme is a LISP dialect with "artificial intelligence" capabilities. Has a large appetite for RAM. Interpreted language with Toolbox access limited to a small part of QuickDraw. \$125. Semantic Microsystems, 4470 S.W. Hall St., Beaverton, OR 97005. NCP (Jun 86)

MacScheme + Toolsmith is a Mac version of Scheme, a LISP dialect. Beautiful implementation, marred only by relative slowness compared to similar products. Get *Toolsmith*. Requires 1M+.

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\$395. Semantic Microsystems, 4470 S. W. Hall, Beaverton, OR 97005. NCP (Aug 87)

Megamax C is an easy to use, full version of C. Has a compiler, linker, disassembler, editor and much more. Good for beginners. Excellent documentation. \$299.95. Megamax, PO Box 851521, Richardson, TX 75085. NCP

Microsoft BASIC was the Mac's first programming language. This interpreter (it's not a compiler) now supports the Toolbox and the whole Mac interface can be implemented in your programs. For nonprogrammers there are lots of programs available. \$99. Microsoft, 16011 NE 36th Way, Redmond, WA 98073-9717. NCP

MIDIBasic is a library of simple, but highly useful routines for writing MIDI software. Good stuff. Sketchy documentation. Works with both *Microsoft* and *ZBasic*. Requires 512K+ plus Basic. \$49.95. Altech Systems, 831 Kings Highway, Shreveport, LA 71119. NCP (Aug 87)

Object Logo is an object-oriented programming language with access to the Toolbox. Good product, but can't produce standalone applications. Requires 512K+. \$79.95. Coral Software, PO Box 307, Cambridge, MA 02142. NCP (Aug 87)

Personal Prolog is an inexpensive and well-documented program. Has no debugging or search and replace facilities, making it a more appropriate tool for learning than development. Documentation and use of Mac interface are excellent. \$64.95. Optimized Systems Software, 1221 B Kentwood Ave., San Jose, CA 95129. NCP (Mar 87)

Prolog/m is a solid Prolog following the Edinburgh standard. Has extensive debugging facilities, but you'll need separate *Toolbox* disk with 58 additional predicates. Drawback: no true editing or printing facilities. \$99.95. Chalcedony Software, 5580 La Jolla Blvd., La Jolla, CA 92037. NCP (Mar 87)

QUED (Quality Editor for Developers) is the ultimate source code editor. Loaded with useful and well thought out features, it will make any programmer's life much easier. It is not a word processor, however. \$65. Paragon Concepts, 4954 Sun Valley Rd., Del Mar, CA 92014. NCP (Mar 86)

TML Data Base Toolkit is an ISAM type data base that provides fast and efficient administration of large data files in applications developed with *TML* compiler. Supports multiple open index files. \$89.95. TML Systems, 4241 Bay Meadows Rd., Jacksonville, FL 32217. NCP (Dec 86)

TML (MacLanguage Series) Pascal is a good Pascal compiler, capable of producing standalone programs. Can use most existing Lisa Pascal programs with only slight modification. Requires 512K. \$99.95. TML Systems, 4241 Bay Meadows Rd., Jacksonville, FL 32217. NCP (Jun 86)

TML Source Code Library shows how to write programs that use custom definition routines, speech, serial drivers, split bars and other topics. Provided on three 400K diskettes. Requires *TML Pascal*. \$79.95. TML Systems, 4241 Bay Meadows Rd., Jacksonville, FL 32217. NCP (Dec 86)

Visual Interactive Programming is a unique visual programming system for creating simple Macintosh applications. Programs are constructed in a flowchart-type manner. Easy access to most toolbox routines. Poor printing control. \$124.95. Mainstay, 5311-B Derry Ave., Agoura Hills, CA 91301. NCP (Jun 87)

ZBasic is a fast, interactive compiler capable of creating standalone applications that take advantage of Mac's unique features and abilities. Includes *Edit*, *RMaker* and *MacInTalk*. Requires 512K. \$89.95. Zedcor, 4500 E. Speedway Blvd., Tucson, AZ 85712. NCP (Dec 86)



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MINIFINDERS

EDUCATION

Business Simulator is a training tool in a simulation game. Make decisions that manage the company through several stages over 25 years. Decisions become more difficult over time. Requires 512K+, 2 disk drives (one must be 800K). May be run from a hard disk. \$69.95. Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404. NCP (Dec 87)

ChipWits is a combination game and teaching tool. Players create programs to maneuver robots through a set of 8 mazes. The programs are written in *ChipWit's* built-in icon-based programming language (IBOL). \$49.95. BrainPower, 24009 Ventura Blvd., Calabasas, CA 91302. NCP

Course Builder (version 2.0) creates standalone educational applications. An easy-to-learn dedicated programming language uses blocks and arrows. Graphics, animation and sound can be integrated. Version 2 allows mathematical calculations. Poor documentation. \$395, plus \$10 shipping. TeleRobotics International, 8410 Oak Ridge Highway, Knoxville, TN 37931. NCP (Oct 87)

KidsTime is a package of five quality educational programs for children between the ages of 3 and 12. The programs all have adjustable difficulty levels. Some use speech and one is a nice introduction to musical notes. Sparse documentation. \$49.95. Great Wave, 5353 Scotts Valley Dr., Scotts Valley, CA 95066. NCP (Oct 86)

MacEdge and **MacEdge II** each contain 8 reading or math drill programs for basic skills. Programs follow one of three formats, a bit contrived. Contrivances are design flaws. \$49.95 each. Think Educational Software, 16 Market St., Potsdam, NY 13676. CP

MacType offers structured typing instruction. Can teach both standard and Dvorak keyboards. Features include certificates for reaching certain levels. Can be used in a multistudent environment.

\$49.95. Palantir Software, 12777 Jones Rd., Houston, TX 77070. CP

MasterType is proof that learning to type can be fun. In this arcade-style action game words descend from four corners towards the center ship; the user must type them correctly. Features 18 skill levels, tracks errors, recommends lessons and provides comparison scores. \$49.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60062. CP

Sensei Physics is a capable, intelligent, well-designed study aid. Covers Vectors to Thermodynamics to The Nature of Light. Animated experiments let you try out concepts. Requires 512K+. \$99.95. Broderbund Software, 17 Paul Dr., San Rafael, CA 94903. CP (Jan 88)

Subli-Mac is a self-hypnosis program, combining subliminal, relaxation and positive-self-image techniques. Flashes a brief user-written message (against a diversionary pattern) at your subconscious. Dangerous near hard disks. Manual suffers from terminal California-ese. \$39.95. Psy-Den, PO Box 248, Champlain, NY 12919. NCP (Jan 88)

ENTERTAINMENT

A Mind Forever Voyaging is a departure in text adventure games. It has a more extensive vocabulary and a more involved story than most of the genre. The story here is gripping, but there are only a few puzzles to solve. Requires 512K+. \$39.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. NCP (Apr 86)

Alter Ego simulates the entire lifetime of a fictional character. The player's reaction to each multiple-choice event shapes the character's future relationships, job, health, etc. Spectacular the first time you play; after that there are too many similarities to

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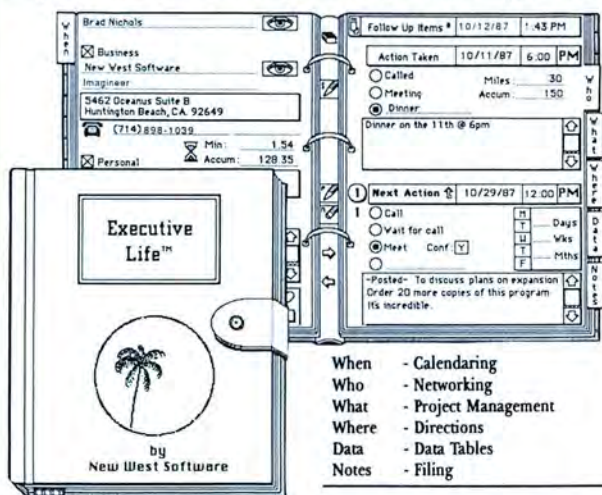
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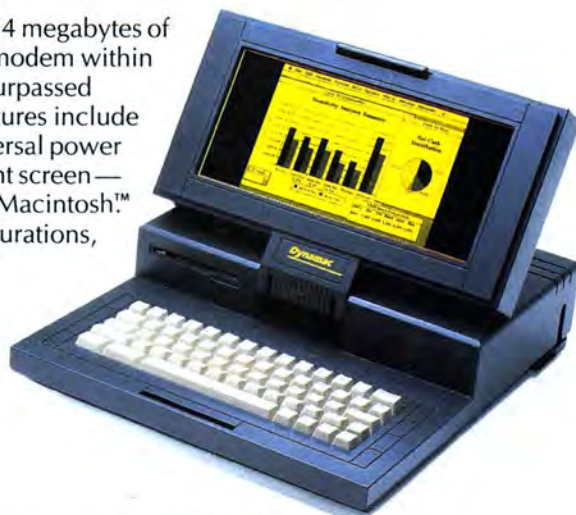
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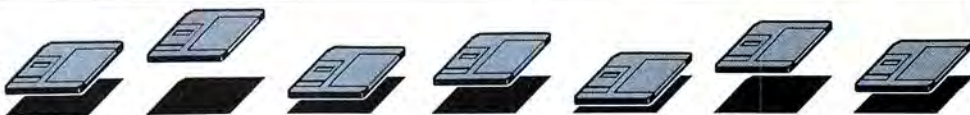


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MINIFINDERS



previous characters. \$59.95. Activision, PO Box 7287, Mountain View, CA 94039. CP (Jun 86)

The Ancient Art of War gives users a chance to refight some famous campaigns on both strategic and tactical levels. Campaigns can also be designed from scratch. Very playable, addicting game. Requires 512K+. Mac. \$44.95. Broderbund, 17 Paul Dr., San Rafael, CA 94903. CP (Apr 86)

Archon pits the forces of Light against Dark in a quest to gain control of five Power Points on a checkerboard grid. The shifting cycles of squares' colors keep the balance of power ever-changing. One or two players. \$39.95. Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404. CP (Oct 86)

Balance of Power is the world's first computer peacegame. This simulation allows players to become either the President of the United States or General Secretary of the Soviet Union. Extraordinary artificial intelligence routines and general play make this a classic. \$49.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60022. CP (Prem)

Battle Stations is a deceptively simple game based on the pen and paper game of *Battleship*. Requires strategy on several levels. Makes excellent use of Mac sound and graphics. Fun, casual game, especially when the Mac is one of the players. Requires 512K+. \$30. Timeline, PO Box 60, Ypsilanti, MI 48197. NCP (Jun 87)

Borrowed Time casts players as detectives who have to solve their own murder — before it happens. This game requires players to think and act like a detective to solve the game. Good sentence parser, sketchy Mac interface. \$44.95. Activision, PO Box 7287, Mountain View, CA 94039. CP (May 86)

Bridge 4.0 provides three other players and the cards for a game of rubber bridge. It's an average (Goren) bidder and a less than

good card player. Good if it's the only game in town. Plays slowly since it's written in BASIC. \$29.95. Artworx Software, 150 N. Main St. Fairport, NY 14450. CP (Sep 86)

Bureaucracy is a paranoid text adventure that dares you to move to a new house and job and still maintain some degree of sanity, not to mention a low blood pressure. Written by Douglas Adams of *Hitchhiker's* fame. \$39.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. NCP (Aug 87)

The Chessmaster 2000 is a masterful chess program that will appeal to both novices and master. You can view the board from 2- or 3-D perspective and turn the board for a better look. Play is smooth and easy, and the program responds by voice. You may get tired of hearing "Gotcha," though. \$39.95. The Software Toolworks, 13557 Ventura Blvd., Sherman Oaks, CA 91423. CP (Jul 87)

Dark Castle is an outstanding achievement in action games which integrates RealSound with superb animation and graphics. You'll need better-than-average hand/eye coordination, but it's well worth the effort. Requires 512K+. \$39.95. Silicon Beach, PO Box 261430, San Diego, CA 92126. NCP (Apr 87)

Deja Vu: A Nightmare Comes True is a graphic adventure that breaks new ground. Innovative use of the Mac interface in truly playable and exciting game. A great introduction to graphic adventure games. \$49.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60062. CP (Jan 86)

Dinner at Eight is a useful recipe filing system that includes a collection of recipes from a nationwide sampling of restaurants. Users enter number of diners and program scales recipes. \$49.95. Rubicon, 2111 Dickson Dr., Austin, TX 78704. NCP (Jan 86)

Down Hill Racer is an action game with three skier personalities, four courses and four skill levels. There's something here for every

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MINIFINDERS



player, no matter how bad or good. Full digitized sound (very nice!) requires at least 1M. Requires 512K+. Not XL compatible. \$49.95. Miles Computing, 7741 Alabama Ave., Canoga Park, CA 91304. CP (Sep 87)

Enchanted Scepters is a surround sound graphic adventure game. It has a limited vocabulary and virtually no story. Offers extensive and varied scenes and utilizes the Mac interface to the fullest. \$39.95. Silicon Beach, PO Box 261430, San Diego, CA 92126. CP (May 86)

Ferrari Grand Prix is an exciting race car simulation game. Mastering it takes quite a bit of time and effort. Startup course and four other courses are built into the program. You can also design your own courses and backgrounds. Requires 512K+. \$59.95. Bullseye Software, PO Drawer 7900, Incline Village, NV 89450. CP (Jul 87)

Flight Simulator puts you at the controls of a small plane (prop or jet) and lets you roam North America. As difficult as real flying. Mac version has features not found on earlier versions, including spotter aircraft. Not all features available on 128K. \$49.95. Microsoft, 16011 NE 36th Way, Redmond, WA 98073-9717. CP (Nov 86)

Fokker Triplane is about as near to flying as you can get seated in front of a computer. Very realistic simulation and excellent graphics. Well designed and implemented. \$59.95. Bullseye Software, PO Drawer 7900, Incline Village, NV 89450. CP (Feb 86)

Gato puts players in command of an American submarine in World War II. This superb simulation game uses all of the Mac's graphic capabilities to really make you feel that "you are there." \$49.95. Spectrum HoloByte, 2061 Challenger Dr., Alameda, CA 94501. CP (Nov 85)

Grand Slam is an absorbing and realistic tennis simulation game. Practice or play tournament against Mac-controlled players with different styles and abilities on four different surfaces. 512K or Mac Plus. \$49.95. Infinity Software, 1331 61st St., Emeryville, CA 94608. CP (Nov 86)

HardBall is a baseball simulation game complete with umpire's calls and crowd sounds. Great graphics and a lot of fun for fans. \$44.95. Accolade, 20813 Stevens Creek Blvd., Cupertino, CA 95014. CP (Feb 87)

Hollywood Hijinx substitutes a modern Hollywood estate for the famous Underground Empire, but otherwise represents a return to *Zork* gameplay and feel. There's even a maze to navigate. Simplistic, but good. \$39.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. NCP (Jun 87)

Klondike 3.3 is a version of solitaire that uses video game-like scoring to create a superb, totally addictive game. Simple to play, nearly impossible to stop playing. Shareware: \$10. Unison Software, 415 Clyde Ave., Mountain View, CA 94043. NCP (Dec 87)

Leather Goddesses of Phobos is another in the long line of witty and entertaining Infocom text adventures. This one lets you choose your sex and comes with a 3D comic and a scratch 'n sniff card. It has three levels of play: tame, suggestive and lewd. \$39.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. NCP (Feb 87)

Lode Runner is a 150-screen action-strategy challenge. Move around a grid of ladders and platforms collecting treasure; dig a hole to trap pursuers. Build your own challenges. \$39.95. Broderbund, 17 Paul Dr., San Rafael, CA 94903. CP

MacCourses adds four very challenging new courses to *MacGolf*. Courses are swapped on the original *MacGolf* master disk two at a time. Nice add-on for a good game. Requires *MacGolf*.

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MINIFINDERS



\$34.95. Practical Computer Applications, 1305 Jefferson Hwy., Champlin, MN 55316. CP (Apr 87)

MacGolf is a dynamic simulation of real golf. Players have a choice of **★★★★½** courses and difficulty levels. Superb playability makes this a must for all golfers and gamers. Requires 512K+. \$59.95. Practical Computer Applications, 1305 Jefferson Hwy., Champlin, MN 55316. CP (May 86)

MacMan is a two-part package. The software portion is a decent **★★★★** *Man*-like game. The hardware part is a tiny converter that lets you use a joystick with a Mac or Mac Plus. \$39.95. Nuvo Systems, 225 Tank Farm Rd., San Luis Obispo, CA 93401. CP (Aug 87)

Mac Pro Football is a terrific sports simulation that gives you the chance to pit any combination of 38 Super Bowl teams against each other and direct team play. It comes with excellent, detailed (and necessary) documentation. Play selection can get a bit Byzantine. \$49.95. Avalon Hill, 4517 Harford Rd., Baltimore, MD 21214. CP (Mar 87)

MacRacquetball uses digitized videos and sounds of professional players for a realistic simulation. Has lots of control settings and can be played against someone else over a modem or between hard-wired Macs. Turn off hard disks before playing. \$59.95. Practical Computer Applications, 1305 Jefferson Hwy., Champlin, MN 55316. CP (Oct 87)

Make Millions is a fascinating business simulation in which the player **★★★★** competes against the computer to take control of five companies, then run them profitably. Appeals to the closet capitalist in all of us. \$49.95. Scarborough Systems/Mindscape, 3444 Dundee, Northbrook, IL 60062. CP

Maze Survival challenges players to destroy maze walls before roving **★★½** bugs squash themselves against it. Bugs lay eggs to spawn a new generation. Repetitive. \$34.95. Olduvai Software, 7520A Red Road, South Miami, FL 33143. NCP (Aug 87)

MazeWars + is an interactive, multiplayer game to be played on Apple- **★★★★** Talk or through a modem link. Chase opponents through a four level maze. Requires 512K+, AppleTalk or Hayes compatible modem. \$49.95. MacroMind, 1029 W. Wolfram, Chicago, IL 60657. NCP (Nov 86)

MicEdGames is a collection of five educational games, MicAlphabetize, **★★½** MicTime, MicStates, MicMatch and MicSpell, supposedly for ages 5 to adult. Games are sometimes cute but generally poorly designed. Manual is poorly written. Some entertainment value. \$19.95. MicEdWare, 4265 Midland Rd., Saginaw, MI 48603. NCP (Dec 87)

Mind Over Mac features five games. Entertainment for the whole family. **★★★★** Good graphics paired with synthesized sound and on-screen help. \$49.95. Think Educational Software, 16 Market St., Potsdam, NY 13676. CP (Feb 86)

MoonMist is an introductory level text adventure game. This is a typical **★★★** haunted English castle story, not quite up to Infocom's best. It has four versions, so it's good for more than one play. \$39.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. NCP (May 87)

NewGammon is an animated backgammon that will challenge even good **★★★★** players. Features include variable skill levels and strategies and options to play the Mac or watch the Mac play itself. An arcade-like high speed mode is included. \$39.95. Newsoft, PO Box 3046, Newport Beach, CA 92663. CP

NFL Challenge simulates coaching and watching professional football. **★★★★½** Comes on two disks, one with program and *System*, the other statistical data. Play against either human or computer coaching. Plays are selected from pre-defined playbooks. \$99.95. XOR Corp., 5421 Opportunity Ct., Minnetonka, MN 55343. NCP (Jun 87)

Ogre is a strategy tank game played on a hexagon grid. The ogre is an **★★★★** intelligent cybertank out to smash your command post. Customize your defense. Exceptionally good Mac interface. Has two-player option. \$30. Origin Systems, 136 Harvey Rd., Building B, Londonderry, NH 03053. CP (Nov 87)

Orbiter puts a real space shuttle on the Mac screen. A multitude of **★★★★½** controls, intelligent on-board computer with speech capabilities, real-time graphics and 16 distinct missions help this program succeed as both a game and a simulation. \$49.95. Spec-

trum HoloByte, 2061 Challenger Dr., Alameda, CA 94501. NCP (Jul 86)

Orbquest is a fantasy role-playing adventure with better-than-average **★★★★½** puzzles and an excellent sense of humor. Not as sophisticated as some, but a good value. \$49.95. QWare, PO Box 850415, Richardson, TX 75085. CP (Dec 86)

Patton vs. Rommel is traditional-style strategic war game. It covers **★★★★** events in Normandy in 1944. While complex, it's well designed and very playable. \$39.95. Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404. CP (Apr 87)

The Pawn is an unusual British interactive adventure game with text and **★★★★½** graphics. The unique interface has some drawbacks, but *The Pawn* has humor, social satire, is entertaining and is challenging. \$44.95. Requires 512K+. Firebird, PO Box 49, Ramsey, NJ 07446. CP (Mar 87)

Pinball Construction Set lets users create their own pinball games, as **★★★★** elaborate or as easy as desired. Uses *MacPaint* for backgrounds and has lifelike sounds (on 512K+ Macs). \$39.95. Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404. CP (Jan 86)

Plundered Hearts brings gothic romance to interactive fiction in the **★★★★½** familiar Infocom mode of puzzles, mazes and riddles. You play a 17th century heroine dodging pirates to rescue her wrongly imprisoned father. Medium difficulty. \$39.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. CP (Jan 88)

Portal is an intriguing science fiction novel for kids that suffers from **★★★** having a poor interface. Storyline: all of humanity is missing and you have to search through a data base for files that reveal the mystery. Nothing in the way of role-playing, and the Mac version is slow and buggy. \$49.95. Activision, PO Box 7287, Mountain View, CA 94039. CP (Oct 87)

Puppy Love is a combined game and teaching tool. As you teach your **★★★★½** puppy tricks and routines, you learn the basics of programming logic. Great fun for all ages. Does not run from a hard disk. \$29.95. Addison-Wesley, Route 128, Reading, MA 01867. CP (Mar 87)

Real Poker is five-card draw against five other players with Old West **★★★★½** names, distinct personalities and playing styles, in a saloon setting. Dealing and play are very fast. Game evaluates your hand. \$39.95. Henderson Associates, 980 Henderson Ave., Sunnyvale, CA 94086. CP

Seven Cities of Gold is an educational program masquerading as an **★★★★** adventure game and is practically unique in being equally good in both respects. You are to land (not the easiest part) in the New World and attempt to placate the natives, seed a few missions and collect gold. Nice work if you can get it. \$39.95. Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404. CP (Jun 87)

Shadowgate is an icon-based graphic adventure. You, as the seed of **★★★★½** prophecy, must save the world from the evil warlock. Far surpasses all others with great animated graphics, sound and adventure. \$49.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60062. CP (Dec 87)

Shanghai challenges players to clear a board of all 144 tiles by match- **★★★★** ing pairs of mah-jongg tiles and removing them. Terrific strategic options plus the ability to randomly generate new game boards keep this one fresh. \$44.95. Activision, PO Box 7287, Mountain View, CA 94039. CP (Nov 86)

Skyfox is a sophisticated 3D shoot-em-up. You're fighting tanks, planes **★★★★** and enemy cities floating in the sky. Fast graphics, good sound, slick, on-board attack computer and many levels of difficulty will keep fans of this genre happy for hours. \$39.95. Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404. CP (Oct 86)

Smash Hit Racquetball is an accurate and entertaining simulation of a **★★★★½** day on the courts. Digitized sound adds to the realism. Includes a hard disk install, unusual for a game. The low price makes this the perfect Mac gift. \$19.95. Primera Software, 650 Cragmont Ave., Berkeley, CA 94707. CP (Dec 86)

Snake-Bar lets you guide a snake (or train or semi) through a maze **★★★★** picking up objects that feed and make your snake grow. Options include changing languages, editing the maze, and an X-rated game. \$15. (shareware). Georges Malamound, 37 Bis rue des Abbesses, Montmartre, 75018 Paris, France. NCP (Dec 87)

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MINIFINDERS



Space Quest is a three-dimensional, animated adventure in which you play a janitor in a dicey situation. All you have to do is get off your ship before it explodes and save the Eamon System. Runs on any Mac. \$49.95 Sierra On-Line, PO Box 485, Coarsegold, CA 93614. CP (Sep 87)

Stationfall is the sequel (finally) to Infocom's excellent *Planetfall* text adventure. Reunited with Floyd and sent to pick up requisition forms, you must solve the empty space station problem. As straightforward as other Infocom games; more so than some. \$39.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. NCP (Nov 87)

Strategic Conquest Plus challenges you to discover an unexplored world and conquer it by manufacturing and deploying armies, ships and planes. A two-disk game that doesn't support an external drive. Requires 512K+. \$59.95. PBI Software, 1111 Triton Dr., Foster City, CA 94404. CP (Feb 88)

Tass Times in Töne Town is a slightly off-the-wall graphic adventure in which you need a flashy hairdo and a jumpsuit before you can get anywhere, and you pay for things with guitar picks. Decent puzzles, with a sense of humor. \$44.95. Activision, PO Box 7287, Mountain View, CA 94039. CP (Jan 87)

The Toy Shop is a construction kit for building 20 different working model toys. Some parts can be customized. Manual gives clear instructions, but many toys are too complex for a child. \$49.95. Broderbund, 17 Paul Dr., San Rafael, CA 94903. CP (Nov 86)

Ultima III allows up to four characters to cooperate to explore the vast wilderness of Sosaria. \$59.95. Origin Systems, 340 Harvey Rd., Manchester, NH 03103. CP

Uninvited is an icon-based adventure game set in an extremely haunted mansion. Since you access the parser by double-clicking, command choices are always visible — you don't waste time trying to figure out which words the program understands. It has animation and sound. \$49.95. Mindscape, 3444 Dundee, Northbrook, IL 60062. CP (Sep 86)

Winter Games lets up to eight players compete against each other in Olympic events including figure skating, bobsledding, biathlon and ski-jumping. Excellent animation, good graphics, good theme music. \$39.95. Epyx, 600 Galveston Dr., PO Box 8020, Redwood City, CA 94063. CP (Mar 86)

Wizardry is an outstanding dungeon exploration adventure pitting a party of up to six characters against the guardian monsters of the evil wizard Werdna. Capture his amulet to earn your reward. Even after solving the game, you'll want to go back into the dungeon. \$59.95. Sir-Tech, Charlestown-Ogdensburg Mall, PO Box 245, Ogdensburg, NY 13669. CP

WordPlay is a word game with over 50 crossword puzzles for different levels of expertise. User friendly, it offers on-screen Help menus. A Work mode allows development of new puzzles for the creative. \$49.95. Palantir, 12777 Jones Rd., Houston, TX 77070. NCP (Mar 86)

World Builder is an adventure game construction set with which amounts to its own programming language. The whole program (language including) is easy to learn and produces commercial quality games. No support for the programming language, though. \$79.95. Silicon Beach, PO Box 261430, San Diego, CA 92126. NCP (Apr 87)

Xyphus is a role-playing game pitting four characters (fighters or wizards) against multiple scenarios that grow increasingly harder. Excellent Mac interface and icon control. \$39.95. Penguin, PO Box 311, Geneva, IL 60134. CP

Your Personal Poet creates personalized greeting cards on the Mac. Comes complete with four greeting cards and matching envelopes. Does not run when connected to a LaserWriter. Requires 512K+. \$29.95. Computer Poet Corp., PO Box 7707, Incline, NV 89450. NCP (Jun 87)

Zork II is where the adventure continues in the underground empire. A wandering wizard keeps things interesting, though there's a way to beat him if you persevere. \$44.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. NCP

Zork III is the final chapter in the trilogy. Players come up against the ultimate enemy — the Dungeonmaster himself. More closed-

ended than previous *Zorks*. \$44.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. NCP

MUSIC

ConcertWare+ is an enhanced version of *ConcertWare*. Has different instruments and can use any four of a set of eight at any point in a piece. Can read and use *ConcertWare* and *MusicWorks* files. \$69.95. Great Wave Software, 5353 Scotts Valley Dr., Scotts Valley, CA 95066. NCP (Nov 85)

ConcertWare+MIDI is a composition and transcription program that can record multiple notes from a MIDI keyboard. Easy to use if you read music. Handles 8 tracks of 8 voices each. Requires 512K+. Version 4.0. \$149.95. Great Wave Software, 5353 Scotts Valley Dr., Scotts Valley, CA 95066. NCP (Dec 87)

Jam Factory is a program for performing complex manipulations on MIDI data in real time. Unique, entertaining and very powerful, but requires lots of patience and practice. Requires 512K+, MIDI interface and MIDI synthesizer. \$189. Intelligent Computer Music Systems, PO Box 8748, Albany, NY 12208. CP (Oct 87)

Listen is an educational tool for ear training. It has both a piano keyboard and a guitar fretboard for the student to input notes, and offers a wide range of exercises. \$99. Resonate, PO Box 996, Menlo Park, CA 94026. (Jan 87)

M is a music composition and creation program that works with MIDI data in real time. Unique, entertaining and very powerful, but requires lots of patience and practice. Requires 512K+, MIDI interface and MIDI synthesizer. \$219. Intelligent Computer Music Systems, PO Box 8748, Albany, NY 12208. CP (Oct 87)

Master Tracks Pro is a full-featured, second-generation MIDI sequencer that adheres to the Mac interface very well. It's the first program to have a graphic controller. Needs patch chasing for professional use, but it's still a rock-solid program. \$350. Passport Designs, 625 Miramontes St., #103, Half Moon Bay, CA 94019. CP (Dec 87)

MIDI Basic is a simple, but highly useful routine for writing MIDI software. Good stuff. Sketchy documentation. Works with both *Microsoft* and *ZBasic*. Requires 512K+ plus Basic. \$49.95. Altech Systems, 831 Kings Highway, Shreveport, LA 71119. NCP (Aug 87)

Music Mouse is a music program in a genre all its own. Called an "intelligent instrument," *Music Mouse* gives you instant musical feedback as you move the mouse and type on the keyboard, which controls tempo, vibrato, volume, etc. \$59.95. OpCode Systems, 444 Ramona St., Palo Alto, CA 94301. NCP (May 87)

Performer is a strong contender for the high-end of the MIDI sequencer market. Only those experienced with MIDI should get this. Files can be transported to *Professional Composer* for editing. \$395. Mark of the Unicorn, 222 Third St., Cambridge, MA 02142. CP

Practica Musica uses an interactive, game and practice approach to teach music theory and ear training. Excellent training tool for the serious music student, it is also fun for anyone who wants to develop a trained ear for intervals, chords and melodies. Requires 512K. \$125. ARS Nova Software, P.O. Box 40629, Santa Barbara, CA 93140. NCP (Nov 87)

Professional Composer produces performance-quality sheet music using Adobe's Sonata font. Scores can be created from scratch or imported from *Performer* (and can be exported to *Performer* for MIDI playback). Requires 512K. \$495. Mark of the Unicorn, 222 Third St., Cambridge, MA 02142. CP (Jan 88)

Studio Session consists of two programs, an Editor and a Player, that produce music with six voices of digitized sound. Excellent program plus good manual make this a good buy. \$89.95. Impulse, 6870 Shingle Creek Pkwy., Minneapolis, MN 55430. CP (Dec 86)

HARDWARE & ACCESSORIES

AST TurboScan is a 300 dpi scanner with sophisticated graphics software. Scans at resolutions from 72 to 300 dpi. *SuperScan* software offers halftone, line art and mixed modes. "Virtual memory processing" lets you scan images too large to fit in RAM. \$1899. AST Research, 2121 Alton Ave., Irvine, CA 92714. Requires 512K+. *SuperScan* software included. NCP (Nov 87)

MINIFINDERS



CMS S-140 SCSI Hard Disk is a very fast, high-capacity SCSI hard disk with a unity interleave and average access time of 18 msec. Holds 140 M. Help, file transfer and tape backup commands built in. *Hard Disk Partition* is a useful DA that comes with a 6 ft. SCSI cable. \$2995. CMS Enhancements, 1372 Valencia Ave., Tustin, CA 92680. (Jul 87)

Data Frame 40XP is a very fast, very quiet 40-meg external SCSI hard drive. Comes with a good and complete set of utility software. About as fast as a SCSI drive can be. Requires SCSI port, 512K+, new ROM. \$1899. SuperMac Technology, 295 N. Bernardo Ave., Mountain View, CA 94043.

DaynaFile hooks up to a SCSI drive to read MS-DOS disks in the Mac environment. Use Mac applications to manipulate data created with an IBM PC. Comes in both 5-1/4 and 3-1/2 inch formats. \$595 for single floppy. Dayna Communications, 50 S. Main St., 5th Floor, Salt Lake City, UT 84144. (Jan 88)

FX-20 is a good 20-meg external hard drive. Good utility software. Reliable and reasonably quiet. Sits next to Mac, has a large, oddly shaped case. Requires SCSI port, 512K+, new ROM. \$1199. General Computer, 215 First St., Cambridge, MA 02142. (Feb 87)

Hard Disk 20SC is Apple's 20-meg SCSI hard disk. Reliable, fairly noisy unit. Good utility software, but no backup yet. Requires cable and terminator (\$80). Requires SCSI port, 512K+, new ROM. \$1299. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. (Feb 87)

Hewlett-Packard ColorPro Graphics Plotter is an eight-pen desktop plotter that requires third party software to drive it. Fonts are limited to an optional Graphics Enhancement Cartridge that requires some BASIC programming. \$1295. Hewlett-Packard, 16399 W. Bernardo Dr., San Diego, CA 92127. (Feb 88)

ImageMaker shoots 35mm color slides direct from the Mac. Supports most presentation software. Uses patterns to represent colors. Not fully compatible with the Mac II. Requires 512K+. \$4995. *MacDriver* software, \$149. Presentation Technologies, 743 North Pastoria Ave., Sunnyvale, CA 94086. (Feb 88)

IS/ONE tablet with Penworks software lets you use a corded or cordless pen or mouse and a high-res tablet for precise graphics input. Minor bugs with some applications and DAs. Keystroke macros can be launched from the tablet. Minimal documentation. Requires 512K+. \$595 to \$1145. Kurta, 4610 S. 35th St., Phoenix, AZ 85040. (Jan 88)

MacBottom 45 SCSI and Internal Modem has a modem that fits into the top half of the 45-megabyte SCSI hard drive case. Comes with *HFS Backup* and *Eureka*. Does not work with a Mac II. \$1795. Personal Computer Peripherals, 6204 Benjamin Rd., Tampa, FL 33634. (Oct 87)

MacBottom HD21 is a very low (about 2 inches high), external 20-meg hard drive. Fits under the Mac. Very quiet, very reliable. Good utility software, including *HFS Backup*. Requires SCSI port, 512K+, new ROM. \$1195. PCPC, 6204 Benjamin Rd., Tampa, FL 33614. (Feb 87)

MacCharlie's components slip around the Mac and convert it into an IBM PC clone. Amazingly, it works well. The enlarged keyboard has a few bugs but is a joy to use. \$995. Dayna Communications, 50 S. Main St., Salt Lake City, UT 84144. (Dec 85)

MacIntizer is a graphics tablet and absolute positioning device that replaces the mouse. Various scales are possible. \$599. GTCO Corp., 7125 Riverwood Dr., Columbia, MD 21046.

MacNifty Sound Digitizer turns ordinary analog sound input into digital waveforms which can then be manipulated using the *SoundCap* software it comes with. Capable of truly stunning effects. Requires 512K+. \$129.95. Impulse, 6870 Shingle Creek Pkwy., Minneapolis, MN 55430.

MacSnap Plus 2 is a 2M memory upgrade for the Mac Plus. The board has 256 kilobit chips. User installable. Not compatible with existing big screens or internal hard disks, and can't be expanded further. \$399. Dove Computer, 1200 North 23rd St., Wilmington, NC 28405. (Jun 87)

MacTablet is a stylus-driven graphics tablet. Users can easily sketch or trace art using this absolute-positioning device. Has a working area the size of the Mac screen. Allows concurrent use of the

mouse. \$495. Summagraphics Corp., 777 State St. Extension, Fairfield, CT 06430. (Jan 86)

MacTilt/MacTilt SE is a Mac (and external drive) holder that allows a full range of swiveling and tilting. Very strong, this well made unit is also very easy to use. \$99.95. Ergotron, PO Box 17013, Minneapolis, MN 55418.

MacVision is a digitizer that uses an ordinary video camera for input. Capable of extremely fine results and special effects. Easy to use and well documented. \$349.95. Koala, 269 Mt. Hermon Rd., Scotts Valley, CA 95066.

Magic Digitizer is a hardware digitizer that works with video cameras. With *LaserMagic* software you can generate 300 dpi images (in PostScript). Requires 512K+. Digitizer with *Magic* software, \$399.95; *LaserMagic* software, \$49.95. New Image Technology, 10300 Greenbelt Rd., Seabrook, MD 20706. NCP (May 87)

Microtek MSF-300C is a 300-dpi flatbed scanner. Really fast when used with optional MS-SCSI/C adapter. Comes with VersaScan Plus software (NCP) to scan and manipulate image. Saves images in a number of formats including TIFF and *MacPaint*. \$1895. Microtek Lab, 16901 S. Western Ave., Gardena, CA 90247. (Dec 87)

Migent Pocket Modem is a 300/1200 baud portable modem about the size of a 3 x 5 index card. Comes bundled with *MacTerm 2.0*, Borland's telecom DA. Manual is confusing, and tech support is minimal. \$259. Migent, 865 Tahoe Blvd., Incline Village, NV 89450-6062. (Nov 87)

Mouse Mover is a mouse pad-type surface that snaps onto the bottom of the mouse like a roller skate, freeing it up to glide over desk or mouse pad with ease. 99 tiny ball bearings at three strategic points. Mouse glides faster and saves on mouse wear and tear. \$19.95. Magnum Software, 21115 Devonshire St., Chatsworth, CA 91311.

Moustrak is a fabric covered foam mousing pad. It will increase the efficiency of your mouse while helping to keep it clean. Pad comes in a variety of colors. Particularly useful in the typical office desktop environment. \$10. Moustrak, 3047 St. Helena Hwy., St. Helena, CA 94574.

NoLabelSystem is a plastic permanent labeling system in which users slide new tabs into a transparent plastic case on the disk. The tabs stick out of the case slightly, making them easier to read while in the drive. \$19.45. Weber & Sons, 3468 Hwy 9, Freehold, NJ 07728.

One Plus One is a user-installable memory upgrade for a Mac Plus. Adds 1 megabyte of RAM to the 1M already there. Simple one-evening project. Includes MacBreeze, an excellent small fan. Requires Mac Plus. \$395. Levco, 6160 Lusk Blvd., San Diego, CA 92121. (Aug 87)

PhoneNET is an AppleTalk-compatible network. Network can be up to 3000-ft in length. In-place, unused phone cabling can be used for network, and can be combined with AppleTalk on same network. \$49 per node. Farallon Computing, 2150 Kittredge St., Berkeley, CA 94704. (Dec 86)

SuperRam 2 and SuperRam 4 are 2- and 4-megabyte RAM upgrades. Should be dealer installed but can be (carefully) user installed. SuperRam 2 includes RAM adaptor module, 1-meg memory module, modified power cable, jumper and fan. SuperRam 4 adds power supply booster and two 1-meg memory modules. Not compatible with most big screens. \$499. SuperMac Technology, 295 N. Bernardo, Mountain View, CA 94043. (Oct 87)

ThunderScan replaces the ribbon cartridge in an ImageWriter, which is required to use it. Laser scans art that can be run through the ImageWriter, producing high-quality digitized images. The images can be manipulated as they are created or afterward. \$249. Thunderware, 21 Orinda Way, Orinda, CA 94563.

TimeWand is a bar-code reader with a built-in time/date stamping clock. Can be used with *TimeWand Mangaer* software, a data base that's extensive though difficult to use. Poor docs, but good support. Requires 512K+. *TimeWand 2K* version, \$198; *TimeWand Manager*, \$489. Videx, 1105 NE Circle Blvd., Corvallis, OR 97330-4285. (Dec 87)

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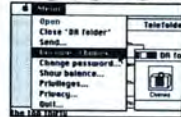
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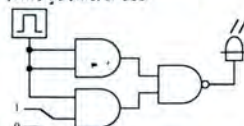
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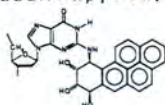
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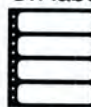
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by John C. Dvorak

The Greatest Depression

The recent collapse of the stock market was worse than the 1929 crash. Back then the pundits, like today's pundits, all said that everything would be better in a few days. One fellow said there may be a little recession. Most of the columnists were telling their readers to buy, buy, buy — now's the best time, when the prices are lower, they all said.

Despite the wishes of the soothsayers, the economy declined and the world went into a decade-long depression.

Every depression is different. Our system hasn't seen one in such a long time that the old-timers who could help us through it and who experienced the 1929 fiasco are mostly dead. They might not be much help nowadays, though, since the economy turned from a manufacturing economy to a service economy dominated not by blue collar workers as in 1929, but by knowledge workers — the white collar worker of 1987.

This is the group most likely to be affected by dislocation. This is also the group who spends much of its time with computers. How will the personal computer fit into the scheme of things if the economy fails to maintain current levels of prosperity? Here are some thoughts.

1. The computer will be blamed for much of the problem. Wall Street has already condemned programmed trading where the computer is programmed to buy and sell stocks according to certain market conditions. While the computer isn't doing anything new (it was done by hand before) the public and old-timers on Wall Street see the machine as some mysterious magical device (yes, it's still true) that is somehow evil.

2. If layoffs occur, again the computer will be seen as an evil. In this case it will be responsible for job losses. Articles will be written: "I was replaced by a computer." Legislation will be proposed to minimize computer use. While the blue collar worker of yore might go on a rampage over an issue such as this, the white collar worker won't do much more than whine. Whining results in new laws getting written.

3. There is an irony to item number 2. Recent studies of productivity show no real increase when computers are used in the office. *Business Week* recently showed that it was nearly impossible to correlate money spent on office technology and concomitant productivity increase. It seems that any gains or improvements in an office environment due to computers can't be quantified. If the economy turns down, the bean-counters who see these figures will nix any further purchases in an effort to cut back expenses. This time the desktop computer will be blamed as a money waster.

Now when we look at Apple Computer in general and the Macintosh in particular we see market forces and other elements of instability that directly affect its rate of success. First of all, there's no foreseeable upward growth path. In other words, if I'm loaded to the gills with Macintoshes and want something more powerful that is compatible, I can't get it.

To make matters worse it's probable that the next Macs will be highly overpriced. If it is to be much more powerful than the Mac II, the next Macintosh (perhaps called the Mac II Plus) will need a faster and more powerful processor. This means the Motorola 68030 or a proprietary chip of its own design. Motorola, like Intel, has decided to not second source its top line microprocessor. So if you want a 68030, you have to buy it from Motorola and you won't be able to get it from a licensee. This means a high fixed price. We assume \$800 for the processor alone. If an economic dislocation occurs and sales plummet, we can expect Motorola to hold fast on its prices under the mistaken assumption that high margins are more important than gross sales. It's the way these guys think.

Apple can design its own chip and it's believed that it is using its purple-painted Cray X/MP to do so. But who knows what they'll come up with? Designing microprocessors isn't like writing code for a disk controller. Whatever the case, it's unlikely that future Apple Macintoshes will be inexpensive. And in an economic decline, expensive things end up unsold.

Meanwhile, Apple has to determine what direction it wants to head. Does it want to keep the little Mac-in-a-box design or move toward the huge Mac II design for future systems? Or will it keep both? In an economic downturn the smallish box may be the better alternative to concentrate on.

Finally, Apple has to address item



number 3 in the list of forces working against the computer. The fact is that computers in the office sometimes slow productivity. The end result (like, say, a complex laser-printed report) may be prettier and more effective in some ways, but does this matter? Apple and the other manufacturers have got to do something to justify the use of these machines.

We all see what happens to a computer user. They go through a long period of learning and adjustment. Productivity decreases. Then they get playful and spend all their time in FatBits "making things just right." Productivity decreases, but is made up by the employee working extra hours for free. Soon the employee is doing work at home. Once the computer is fully integrated into the employee's life, productivity levels stabilize. At this point there is a huge increase in efficiency and quality of work, but no measurable increase in production or productivity. It's obvious that productivity measurements alone don't do the job of telling us if a computer is a valuable tool. Whether the economy collapses or not, this problem must be resolved. It sure won't be resolved by Apple's nebulous and cornball TV commercials.

The classic economic downturns and panics before 1929 were short-lived and lasted only a year or two. When the government got bigger, the downturn lasted longer. The 1929 downturn took 2 years to be fully realized and hit rock bottom 4 years later in 1933. From then on the economy was mostly stagnant. World War II got things heated up and kept them that way.

This downturn may be much the same. Let's just hope it doesn't end in a war. Whatever the case, we can expect the computer industry to be adversely affected.

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